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LECTURES

ON THE

THEORY AND PRACTICE OF MIDWIFERY,

DELIVERED AT GUY'S HOSPITAL BY

DR. BLUNDELL.

LECTURE V.

Comparism of the Male and Female Pelvis.—Passage of the Fœtus through the Pelvis.

Comparison between the Male and Female Pelvis.—Although, Gentlemen, of course the accoucheur has not to operate upon the *male* pelvis, and therefore takes but a small interest in it, absolutely considered; yet as there are some striking differences between the pelvis of the corresponding sexes, and as the comparison and observance of these differences are calculated to render our ideas of the *female* pelvis more exact and prominent, it may not be amiss that we should enter on them.

If I place the female by the side of the male pelvis, comparing them, I remark that in the male pelvis there is a certain *roughness* and *bulkiness* and *weight*, which strikingly contrast it with the *lighter* and *smoother* and *more elegant* pelvis of the female. In the male, too, I find the ilia, or wings of the ossa innominata are more erect, in the female more expanded. In the male the brim is more rounded, though tending somewhat to an ellipse, the long diameter of which stretches from before backward; in the female, the brim, though sometimes rounded, is generally oval, and the long diameter lies between the sides. In the male, the pelvis is deep; in the female, the pelvis is shallow. In the male you have a very small outlet; in the female you have a very capacious one. In the male the arch of the pubes is contracted, in the female it is capacious, to make room for the more ready passage of the head.

Effeminate pelvis we sometimes meet with in the man, as the whole subject may partake more or less of the feminine character; in the women, on the other hand, we sometimes meet with pelves having much of the *masculine make*, as the whole person may exhibit the character of a virago or a Narcissus; nevertheless, where the pelvis healthily formed possesses its ordinary characteristics, nothing is more easy for the accoucheur, than at one glance to distinguish the sex to which it belongs; and were I to select from the various sexual characters enumerated, any single mark more sexual than the rest, it would be the size of the outlet generally, and more especially the size of the arch; always contracted in a well-formed male pelvis, and always extended in a well-formed female.

Bearing of the Pelvis on the Spine.—In practice, Gentlemen, the accoucheur finds it of no small importance to have a correct notion respecting the bearing of the pelvis on the spine, and, as illustrating this bearing we shall have occasion to speak of the *plane* of the brim, it may not be amiss that I should define, at the outset, what is intended by that term. By the plane of the brim, then, I mean an *imaginary surface*, closing in the superior aperture of the pelvis, forming a sort of *flooring* there, to use a familiar illustration, as a piece of card-board might do.

Now when we first give our attention to the bearing of the pelvis on the spine, some of us, perhaps, get a notion that the plane of the brim and the spinal column are placed as I now place them, in a line with each other; while others, and still more frequently, imagine, that the pelvis is so placed with respect to the vertebræ, that the plane and the spine are at right angles with each other, the sacrum lying directly backward and the symphysis pubis directly forward. In truth, however, it is in neither of these bearings that the pelvis unites with the spine, but it is placed in such manner that the plane and the spine form an obtuse angle with each other, the sacrum lying above and posteriorly, the symphysis anteriorly and below, in the position which I now demonstrate, and therefore it is the uterus resting on the pelvis, as its pedestal, that in the

end of gestation, when the womb acquires a large size, it is not placed in the abdomen erect; and you would err greatly, and become very embarrassed in your manual operations, were you to be deceived by this idea. In the living female, when the womb, enlarged by gestation, is resting on the brim, the mouth and neck lie inferiorly and backward, while the fundus, or upper parts, are placed anteriorly, so as to lie out beyond the ensiform cartilage. Now to recollect this is of no small importance in turning the fœtus. If, for example, the arm present—if the feet of the child are lying in the fundus uteri—if you are of consequence compelled to carry the hand into the fundus, in order that you may reach and grasp these feet—the hand must not be passed directly upon the centre of the diaphragm, but upward and anteriorly in such manner that it may project beyond the ensiform cartilage, where, as this apparatus shows you, the fundus is placed. Observing this rule, you may turn with comparative facility, while considerable embarrassment may arise from its neglect.

By knowing the bearing on the spine, though you cannot see the pelvis, you are further enabled, in the living female, to place this part of the skeleton in any direction necessary for your operations. It rarely happens, that we are desirous that the pelvis should lie with the sacrum above, and the symphysis pubis below, as I now place it—that is, with the plane vertically. Yet, now and then, the position may have its advantages, and this position the pelvis assumes when a woman inclines the body forward a little, as if making a reverence; more frequently, we are desirous to give the pelvis such a position that the plane of the brim may lie horizontally, as I now place it. Perhaps you wish to feel the head through the cervix uteri, or you are anxious to ascertain the weight of the uterus, by balancing it upon the finger. Now, in this position of the pelvis, you will most easily make both these observations; and this position is obtained, by placing the patient as I place this image, in the semi-recumbent posture, with the shoulders a little elevated—in a word, half sitting, half lying. When there is a *retroversion* of the uterus, a disease I touched in the preceding lecture, in order that the womb may fall back into the healthy position; inverting the pelvis, we sometimes place it with the fundus above. Now this position you obtain, by depressing the shoulders, and raising the hips—in other words, by placing the woman as here demonstrated, on her knees and elbows; and frequently the bladder being thoroughly evacuated, this position alone will be sufficient for the reduction of the uterus. But to return and recapitulate. If you would place the plane of the brim vertically, let the woman bow; if horizontally, let her be semirecumbent; if inverted, let her take position like this image, on her knees and elbows.

Passage of the Child.—Thus much, Gentlemen, respecting the pelvis. Let us now proceed to the consideration of the passage of the child, beginning with the examination of those properties of the child, of which the knowledge is important to the thorough comprehension of its transmission through the pelvis. When I take this figure into my hand, an excellent though an aged model, examining it obstetrically, I soon perceive that it may be conveniently divided into *three* parts—the *head*, *trunk*, and *extremities*—superior and inferior. Of these three parts, it is the head only which requires attentive study; as under the natural presentations, it is the head that constitutes the principal impediment, where a labour is obstructed. Rarely is there much difficulty in abstracting the trunk and extremities; though, now and then it is true, if the shoulders are large, they may not descend with ease; besides, there are no differences between the trunk and extremities of the fœtus, and of the adult, which, from their effects on parturition, require the study of the obstetric practitioner. This being the case then, with a view of simplifying our subject as much as may be, our observations on the fœtus will be principally confined to its head, the cranium especially; and I may set out by observing of the head, what I have already observed respecting the pelvis—I mean, that no two, perhaps, may be found precisely similar to each other. Of these differences in the make of the head, however, there are some, in a practical view, of little importance, on which, therefore, I forbear to dwell; while others there are of no small interest to the accoucheur, requiring a larger consideration from us. In a view to their consideration, these more important varieties may be divided into two classes, viz. of those which are of *standard make*, and of those heads which are *deviating* from the standard: and first of the standard, or variety of head which, on the whole, ... frequently met with in practice. Exam... the standard head of the fœtus, one of the first observations which I make upon it, and not the least important, is that it resembles somewhat the *egg* of the *ostrich*—a large oviform mass, the long diameters of which are lying between the front and back, as the short diameters are from side to side. In the measures of this oviform cranium, there is considerable variety, and it becomes the less requisite, therefore, that we should with accuracy recollect its dimensions. But though it is not necessary that we should bear in mind the precise number of lines

and inches contained in the different diameters of the cranium—yet thus much is never to be forgotten, particularly when the birth is obstructed. I mean, that the long measures of the head are lying between the front and back, and the short between the sides. As, however, it is proper that you should not be unacquainted with the average measures of the head, a few words here will not be useless or misplaced.

From side to side, between the tuberosities of the *parietal bones* by which the head is now supported, an average measure may be about *three inches and a half*. Between the front and back, from chin to vertex, the average is about *five inches and a quarter*; and this is its greatest length. From the lower part of the occiput to the upper part of the forehead, the measure on an average is about *four inches*, and from the lower part of the forehead to the upper part of the occiput, about *four inches and a half*. The head measured in this manner at its different parts, giving different lengths, you will find in practice that it occupies more or less room, according to the position in which it lies with respect to the aperture that transmits it. I here exhibit a plane of mahogany, in which are *four apertures* of very *unequal* size, small, capacious, and intermediate, and yet I can so place the head, that it will successively fill all the apertures, and pass them all, small and large, with equal facility, as now demonstrated. Now the important fact to be carefully remembered, and which I wish to illustrate by this demonstration is, that the head must occupy much less room in the pelvis in some positions than in others. A meddlesome midwifery is a bad midwifery (frequently I shall repeat this axiom). In ordinary labour, the accoucheur has little to do: he sits at the bed side—he watches the progress of the labour—he supports the perineum—he receives the child—he ties the chord: in the first part of the labour his duties extend no further; nor is it necessary that he should consider the advantages or evils resulting from the varying positions of the head; but in cases of difficulty, Gentlemen, when the head is large, or the pelvis small, and you are compelled unwillingly to have recourse to manual or instrumental assistance, then, indeed, it becomes important to know in what position you can place the head, so as to occupy the least room. Now here is a contracted pelvis, and I will suppose a child were descending through it, feet first, that is, under the crural presentation; in a case like this, it would become my duty to assist the descent, as detention in the pelvis would endanger life in a manner hereafter explained. Now if I place the head (when at the brim) as here demonstrated, with the face in front, and the occiput on the promontory of the sacrum, the long measure of the head being opposed to that short measure of the superior aperture; the head, you perceive, could not be drawn through, nay, if I rectify this malposition, and lay the face and occiput respectively in the sides of the aperture, still if the chin be on one side, and the vertex on the other, the brim becomes filled completely, and the head passes not without difficulty; but if I gently draw the chin of the fœtus upon the chest, placing the head as I now demonstrate, so that the shortest of the three long diameters (that stretching between the summit of the forehead and the lower part of the occiput,) may correspond with the long diameter of the brim, you may here observe how large a space is obtained. Or, to give you another example: if the pelvis and head, being of standard dimensions, the face lie forward throughout the delivery, of course a difficulty is produced at the brim, the long diameter of the head being opposed to the short diameter of the aperture; and if, as here, I suffer the chin to start from the chest, so that of the three long diameters of the head, the longest becomes opposed to the short diameter of the brim, extraction, as you may perceive, becomes impracticable; but if I carry my knowledge of first principles into my practice, if I recollect the brevity of that diameter which stretches between the upper part of the forehead and the lower part of the occiput, and if by placing the chin on the chest, I bring this shortest of the three long diameters to a correspondence with the short diameter of the brim, you may see from this apparatus how readily the head descends. Cases of this kind will be fully considered hereafter; illustration is at present my object, and I wish, on this occasion, merely to impress on your minds the advantage of remembering in your practice, which are the longer, which the shorter measures of the cranium, and of giving positions to the head accordingly.

But to resume: the cranium of an adult we find to be compact and unyielding, but not so the cranium of the fœtus, for this possesses a degree of flexibility and conformability fitting it for certain changes of form and diminutions of bulk which materially facilitate its transmission through the pelvis; and this conformability of the head, a most valuable obstetric property, arises from the *nature* of the *sutures* which, instead of being compacted edge to edge, or united by serration, as in the adult, are put into connexion with each other by means of *cartilage*, a yielding substance which communicates to the head a degree of softness and conformability so well demonstrated in this model; and hence it sometimes happens, in consequence of this conformability, I mean, that although in the morning of the day the

cranium cannot be abstracted, even with the lever or the forceps, and dexterously used, yet in the evening the head may descend easily enough, and the child may be born alive, as I have myself seen. In the morning, perhaps, the *os uteri* has been laid open, and the water has been discharged for a short space of time only, say for two or three hours, the head not having had time to adapt itself to the apertures, to alter its shape, to diminish its bulk; but in the evening, after the long-continued action of the womb, the form is changed, the bulk is diminished, and when prepared in this manner the head descends. Set down, therefore, among the valuable obstetric properties of the head, the comformability of the cranium, resulting from the yielding nature of the sutures and the *mobility* of the bones.

A knowledge of the position of the head being very important to the accoucheur, it becomes necessary that he consider the characters by which the different parts of the head may be recognised, while lying within the body of the mother, a topic to which I next advert. The *eyes*, the *nose*, the *mouth*, the *ears*, are easily distinguished by the eye, but a little attention is requisite to enable you to discriminate them while laying within the womb. I was once called in, in all haste, to a reputed facial presentation, the surgeon telling me, that he had put his finger into the *mouth*. On making an examination, I found the nates presented; the rest I leave you to divine. (Laughter.) Now there is more difficulty in recognising the mouth of a fœtus than you may suppose, because it is generally edentate, that is, destitute of teeth; and I remember very well, when I first had my finger in the mouth of an unborn infant, I scarcely knew where it lay. So with respect to the eyes and nose, you may not be able to distinguish them if you have not been in the habit of feeling them. After birth, and I advise you therefore in beginning practice, on every occasion when a child lies in your way, to pass your fingers over the nose, eyes and mouth, and indeed the other parts of the body, so as to acquire a familiarity with their tangible characteristics.

To recognise the vertex, the pelvis, and the parts, when lying within reach, you must be well acquainted with certain sutures, and those sutures are the *sagittal*, the *frontal*, the *lambdoidal*, the *coronal*, and perhaps I may say, the *squamous*; a knowledge of which is most desirable in midwifery. The sagittal suture, along which I now pass my finger, stretches from the front of the head to the back, uniting reciprocally the parietal bones. No suture has the accoucheur more frequent occasion to mention; its name is familiar to every obstetric ear. The frontal is that suture which is stretching from the sagittal to the root of the nose, sometimes open throughout in the full-grown fœtus —generally open at the superior part, where, as here shown, it meets the coronal and the sagittal. The coronal suture, next demonstrated, is that which stretches from one side of the head to the other, from ear to ear, crossing the sagittal and frontal at right angles, and connecting the os frontis with the parietal bones. The lambdoidal suture lies at the back of the head, on the occiput, resembling the Greek capital, as you see on this prepared cranium here, whence its name, and uniting the occipital bone with the ossa parietalia. On the sides of the head, as now demonstrated, the squamous suture is seated, and coalescing also with the os frontis it unites the squamous portions of the temporal with the parietal bones. The squamous on either side, the sagittal, the frontal, the coronal, the lambdoidal—these, then, are the sutures which it is important for the accoucheur to recollect.

When I examine the cranium further, with a view to ascertain the features by which it is characterised, I find there are two regions where the *osseus* matter is deficient; and these yielding under the touch, and appearing sometimes to pulsate a little, form what are called the *fontanels* or *moulds*, small and large. The former, situated at the point of meeting between the lambdoidal and sagittal sutures, is of triangular shape, small size, and has three sutures concurrent. The latter placed at the point of union between the sagittal and frontal sutures on the one hand, and the two lateral portions of the coronal on the other; distinguished by its romboidal shape, broad extent, and the meeting of *four* sutures there. And thus it is, that in my own practice I am enabled to discriminate these fontanels even within the person of the patient; the greater, by its large size, romboidal (diamond) shape, and the conflux of four sutures—the less by its smaller size, triangular shape, and the communion of *three* sutures; the latter characteristic being less decisive, however, because, at the conflux of the coronal and squamous, there are three portions of sutures also. These fontanels are sometimes larger than at others. Little portions of bone (*ossa triquetra*) are occasionally interposed between the edges of the sutures, which, narrow sometimes, are occasionally broader than ordinary. But to conclude: in the head of the fœtus, the parts deserving obstetric attention, are the form of the head, the measures, the conformability, the sutures, the fontanels, not to mention the more familiar features by which the different parts are recognised.

Deviations from the Standard Head.—The standard head considered, we next proceed to comment on the deviations from the

standard, so far as these are important in the practice of midwifery. A head unusually small, of which specimens are laid on the table before you, giving rise to no difficulty in parturition, is of little interest. But when large, as in this specimen, it deviates from the standard and difficulties during the birth are the result, more especially if the cranium be too firmly ossified, and the pelvis do not exceed the ordinary dimensions. In cases of this kind, however, these difficulties may be easily managed, according to the rule already laid down—always recollecting that a meddling midwifery is bad; when you suspect there is a large head, you are first to give a fair trial to the natural efforts for four-and-twenty hours after the discharge of the liquor amnii, provided no dangerous symptoms appear; the dangerous symptoms beginning on the natural efforts failing, four-and-twenty hours after the discharge of the liquor amnii, the head not advancing, you are, I conceive, justified in having recourse to instruments, (the lever or the forceps I mean,) never to be used without an overbearing necessity. If, again, you fail in trying the lever and forceps, and dangerous symptoms manifest themselves, or if six-and-thirty, or eight-and-forty hours have elapsed after the discharge of the waters, the head making no progress; you would then, I conceive, be justified in laying open the child's head, proceeding on the same principle as in cases of contracted pelvis. The management of this case, therefore, is exceedingly simple; to be conducted on general maxims, no nice measurements of the pelvis are required, no uncertain conjectures respecting the bulk of the head; the rule here given emancipates you from these difficulties; the natural efforts as usual, are to be fairly tried; nor may you lay your hand on instruments, till compelled by a necessity which is inexorable.

Again, we sometimes find, that in consequence of *compression* in labour, the head changing, deviates much from the standard and becomes an important obstetric study. Under the facial presentations, though not universally, yet frequently, the blood accumulates, the features swell, and altogether the parts are so much changed, that you have some difficulty in recognising them, even when the child is under your eye, and much more so when it lies within the pelvis. The same with respect to the vertex, for where there is a want of room, where there is a rigidity of the softer parts, and the head does not lie in position favourable for transmission, you may find the parts about the cranium swelled in such degree, that it resembles the breech more than the head; aye, and you may have been in obstetric practice for a considerable time, and may boast some hundreds of cases under your care, and yet feeling the swelled head, the first time you may not be able to distinguish it from the breech; a piece of tact, which is to be acquired solely by taking every opportunity of examining those swelled heads after the children are born as well as previously.

The head you will sometimes find enlarged in great degree, from the disease called *hydrocephalus*; a morbid affection by no means very uncommon before delivery, and which I have more than once encountered in my own practice; known on diligent examination by puffiness of the vertex, by subobscure fluctuation there, and by a sagittal suture unusually broad; broad, for example, as the three fingers: characteristics, all of them well demonstrated in this specimen. Where the head is hydrocephalic, you may, if you please, carry your hand into the uterus; you may, if you please, burst the vagina; if you please you may rupture the uterus, turn the child, and pull its head from its body; but have some little mercy. I will not say it is never necessary in cases of hydrocephalus, to turn the child by introducing the hand, but surely such necessity is rare. Meddlesome midwifery is bad, the operation of turning, trifling sometimes, is sometimes tremendous; among the young and the interesting, among the matronly and the respected, how many have been its victims; give, therefore, a trial to the natural efforts, by the wise accoucheur never hastily distrusted; then the natural efforts failing, you may puncture the head, should the lever or forceps, as generally in these cases, be previously tried without success. Under the natural efforts, when the pains are strong, the cranium sometimes bursts open, or the spaces between the sutures being large, the head may become compressed, and notwithstanding its extraordinary bulk, may unexpectedly emerge.

There is yet another variety of the head of no small importance in practice, I mean the head of the *dead* fœtus. For where a child has been dead in utero, perhaps, for days before parturition, or where it has died at the very commencement of the labour, you will find it undergoes conspicuous and tangible changes. The skin softens, the cuticle desquamates, the brain is pulpified by putrescence, and the contexture of the bones being dissolved, the different pieces of the cranium separate from each other, so that, as Dr. Hunter used to express it not inappositely, though quaintly, "the scalp with its bones feels like so many nut shells in a bag." Now if you find in this way that the head is softened, that the cuticle is coming away in flakes upon the finger, that the cranial commissures are thoroughly dissolved, (the bones detached from each other floating, as it were, upon the

pulpy brain,) you may look on the decease of the fœtus as certain. That the mother have not felt her child for weeks together, is no decided proof. This mobility of the bones alone deserves no reliance whatever. Cuticular desquamation itself (possible in consequence of cutaneous disease) is an ambiguous indication; the total dissolution and breaking up of the bony structure of the cranium is the best, and perhaps the only certain sign of death. Many a child, rashly pronounced to be dead, breathes and cries immediately on leaving the vagina; and the recollection of these acknowledged truths may, I trust, hereafter paralyse some prurient murderous hand, too eager for the perforator.

I shall conclude my remarks upon those fœtal heads which deviate from the standard, by observing that we sometimes meet with heads without brains, and I here show a specimen, unique, no doubt, and the only one to be met with in this theatre. (Laughter.) By the Germans, in consequence of their resemblance, these crania are called *cat's head*, a denomination by no means inappropriate. The bones of the occiput, front, sides, and summit, are wanting, while those which form the basis cranii are perfect enough. This defective organisation I the rather notice, because where it occurs, and where the accoucheur is not in full possession of the confidence of the family, it leads sometimes to an ill-grounded suspicion, that the cranium has been laid open. Observe, therefore, the specimen here submitted to inspection, and recollect that this is nothing more than a particular variety of monstrosity, on the whole not unfrequent. Within the circle of my own obstetric acquaintance, four or five examples of this brainless monster have occurred, and in two instances gave rise to unpleasant and unjust surmises.—*Et hæc hactenus.*

Presentation and Situation.—Before I enter on the next important topic, I mean the passage of the full grown fœtus through the pelvis, it may not be amiss that I should explain to you the meaning of two obstetric terms of frequent use—presentation, I mean, and situation. By *presentation*, the accoucheur, accurate in his language, understands that part of the child which is found lying over the centre of the pelvis. Thus, in the illustrations I here give you, the arms, the face, the breech, the legs, and so on, constitute the presentations, for these are lying successively over the centre of the pelvis. By the *situation* of the child, when speaking of its passage through the pelvis, we mean the place of it, with respect to the surrounding bones. Thus, in the illustration here given, the vertex of the child presenting one ear is situated on the symphysis pubis, and the other on the sacrum; the face on one side of the pelvis, and the occiput to the other. Again, the arm presenting as here; the head is situated on the one os innominatum, the body on the other; the abdomen in front, and the back in the posterior part of the uterus. So, then, to drop a more extended exemplification, in the accuracy of obstetric language, by presentation we mean that part of the child which is lying over the centre of the pelvis; by situation, the place which the child holds with respect to surrounding bones.

When we meet again, I shall resume.

LECTURES ON CHEMISTRY,

BY

PROFESSOR BRANDE.

Delivered at the Royal Institution of Great Britain.

Lecture V.

On the Thermometer, and the Nature of Heat.

Gentlemen,—The last Lecture was occupied by endeavouring to make you understand the action of heat, in producing the expansion of bodies; at present, we shall consider the apparatus usually employed for the admeasurement of the degrees of heat—namely, the thermometer.

Now, the thermometer, in itself, is a very simple instrument; a certain quantity of a fluid is enclosed in a vessel, allowing its expansion or contraction to take place with facility, and it is generally found, that if we mix equal quantities of the same fluid, at different temperatures, the cold portion will expand as much as the hot portion contracts, and that the resulting temperature will be the mean; so that, it appears, that as much heat is gained by one portion as is lost by the other. Upon this principle, thermometers are constructed. It is assumed, that if 10° of heat be taken from a cold, and added to a heated body, that the expansion of the one will be equal to the contraction of the other; simply supposing, that the increase of bulk is equal to the increase of heat, between 32° and 212°, which is the ordinary range of the thermometrical scale. Without taking you far into the history of the thermometer, I may just observe, that the first which was constructed upon truly scientific principles, was that invented by Sanctorio, of Padua. He confined a portion of air in tubes, which, by its contraction and expansion, was used to

exhibit the alternations of heat and cold. This instrument was very imperfect, and extremely inconvenient, from the rapid and great dilatability of air, by moderate changes of temperature; but principally on account of the pressure of the atmosphere on the column of fluid at different altitudes. The Florentine academicians were the first to employ a solid body instead of air, the advantage of which is very evident; but, upon the whole, it was an useless instrument, if we speak of it in comparison with those now constructed. This instrument was a bulb containing spirit of wine, and closed so as to exclude the influence of air, and to prevent the co-operation of this fluid. Now, this served to show, very well, the amount of increase or decrease of temperature in a given body, but it did not allow of any accurate comparison being made with others; for there being no fixed point at either extremity of the scale, the graduation was arbitrary, and no two instruments, when placed in the same temperature, indicated the same degree of heat. You will find, in the proceedings of the Florentine Academicians, drawings of various instruments made on this principle, but they were of no use, except by direct comparison. All these, however, have been far surpassed, by contrivances of a later date; so that, now, thermometers are constructed with an extreme degree of nicety. The thermometer, as now constructed, consists of a glass tube, having a bulb at one extremity, for the fluid to be employed, and hermetically sealed at the other. In selecting a tube for the manufacture of a thermometer, care should be taken to see that it is perfectly cylindrical and perfectly clean; and if the column of mercury inserted, be equal in all parts of the length of the tube, it shows that it is quite straight. Then a bulb is blown by heating the end of the tube, and by forcing air into it from a caoutchouc bottle, attached to the other extremity of the tube, until the bulb becomes of a sufficient size. The caoutchouc is necessary, because the moisture of the breath would destroy the tube for the purpose intended. The next point is to get the fluid into the bulb, which is intended to be used to show the degrees of expansion, which will be hereafter explained. Now two fluids are, at present, usually employed for this purpose, alcohol and mercury, the former being very well suited for the indication of extreme cold, from the fact of its not freezing; and mercury, as it boils only at a very high temperature, is a very good substance for showing great degrees of heat. The main difficulty to be overcome in establishing what states of temperature should be considered as the fixed points from which to reckon the degrees, remained to be overcome; and Mr. Boyle has the merit of having suggested that point, at which water is converted into ice, as the zero; and Martin gives Dr. Halley the merit of fixing upon the boiling point of water as a standard of graduation, which elevates the quicksilver in the thermometer tube always to a given point, under given barometrical pressure, and the mean pressure of thirty inches is generally understood to be that at which our thermometers are graduated.

Now, the three thermometric scales at present most in use in Europe, are those of Fahrenheit, Reaumur, and the centigrade. Fahrenheit's scale commences at the temperature produced by mixing snow and salt, being at 32° below the freezing of water, which point, therefore, is marked 32°, and the boiling point 212°, the intermediate space being divided into 172°. In Reaumur's scale, the freezing point is zero, and 80° the boiling; and in the centigrade, the space between these two is graduated into 100°. Now it will frequently happen, that during your chemical studies, you will find temperatures mentioned, reckoned according to one or other of these scales; therefore, it is very necessary that you should know how to compare these, so as to ascertain the equivalent degree on the one scale, for any given degree on another. There are some thermometers, on which the degrees are marked off, according to these three scales; but if you should not be in possession of such, you may easily reduce Fahrenheit to Reaumur, if you recollect that each degree of the former is equal to four-ninths of a degree of the latter; and that, if you take any degree of Fahrenheit, subtract 32°, multiply by four, and divide by nine, and the result will give you the corresponding degree of Reaumur. To reduce Reaumur to Fahrenheit, you multiply the degree by nine, and divide by four; to the product, 32° must be added. Each degree of Fahrenheit is equal to five-ninths of a degree on the centigrade scale; so that, if you multiply any degree of Fahrenheit, having first substracted 32°, then multiply by five, and divide by nine, you will obtain the corresponding degree on the centigrade scale—and *vice versa*.

You will understand then now, upon what principles the thermometers are graduated, and how far they are to be depended upon as measures of heat. Mercury being very equal in its expansion, is for general purposes preferred; and spirit, as it is never frozen, being well adapted for the admeasurement of low temperatures. Linseed oil was employed by Sir Isaac Newton to fill his thermometrical tubes, and he assumed the boiling and the freezing of water as the fixed points; it is a liquid, however, very inconvenient on account of its viscidity, and from the irregularity of its expansion. A

great variety of thermometers are in use, but for common purposes, you cannot have a better than the spirit thermometer, which is a very simple instrument; the bulb is usually protected by a brass shield, but for measuring the heat of fluids, the bulb should be bare. You may have the scale marked upon the tube, or you may have the scale inserted into the tube, containing the spirit or mercury. (Mr. Brande then showed the class a great variety of these instruments, marking the gradual improvement that had taken place in their construction.)

Now of course the indications of the thermometer become unavailing, when we arrive at temperatures at which mercury boils, which is about 500°; the thermometer is unavailable, because the tube containing the mercury would burst, and we must have recourse to another mode of ascertaining the increase of temperature beyond that point. Such a mode was long since suggested by Mr. Wedgewood, who, observing the differences produced in the bulk of clay on exposure to a strong heat, took a piece of clay, measured it, and then submitted it to a powerful heat; and by comparative experiments of this kind, he endeavoured to establish, by the degree of shrinkage of a given bulk on exposure to a given heat, the absolute heat of any furnace beyond that point by the comparative shrinkage. But as Sir James Hall has correctly observed, the shrinkage of the clay is the same when submitted to a red heat for a quarter of an hour, as when exposed to a white heat for five minutes; and hence a great door was opened at once to fallacy in arriving at any conclusions from this test of heat. The shrinkage, as it will be seen, depending rather upon time, than upon the degree of heat to which the clay was submitted. The metals are not, however, liable to that objection; and here is an instrument invented by Mr. Daniel, which I will explain to you. A platinum bar is inserted in the centre of a cylinder of black lead ware, as it is called, which bears a great degree of heat, and from the top of the platinum bar, a wire was passed over the axis of an index. He established by various experiments a sort of accordance between a scale which he attached to the index and the scale of Fahrenheit, and he considers that the boiling point of mercury would be about 92° upon his pyrometer, or equal to 644° of Fahrenheit; that the point of fusion of tin would be about 63°, or equal to 441° of Fahrenheit; bismuth 66°, or equal to 469°; lead 87°, or equal to 609°; cast iron 497°, or equal to 3477° of Fahrenheit.

If you take a bar of brass and steel, rivet them together, and lay them on a flat surface, the brass contracts more rapidly than the steel, so that in cold weather the steel will be bent upwards, and in hot weather in the other direction. This principle has been applied to the manufacture of the pendulum of clocks, and also to the balances of watches and chronometers; and when we consider the great minuteness of watch-work, we cannot but feel surprised at the great degree of perfection at which this compensation balance, as it is called, has been brought. The chronometer taken by Capt. Parry to the North Pole, varied a very few seconds only during the voyage, on account of the compensation of the balance by the different degrees of expansion and contraction of the metals of which it was composed. These things belong, however, more to the mechanical than to the chemical philosopher.

Here is an instrument, which has been an apple of discord in the philosophical world, especially between Count Rumford and Mr. Leslie; Count Rumford said, he had discovered it, and he called it a *thermoscope*, and Mr. Leslie called it a *differential thermometer*. Van Helmont, however, has described a similar instrument, and has made the same application of it as these two philosophers have done. It has been called a differential thermometer, on account of its showing the difference of temperature between the two balls. Now, remember that this thermometer merely indicates the degree of heat given off by bodies, and thus becomes a measurer of that quantity of heat, which bodies are capable of absorbing or communicating under ordinary circumstances; but it is by no means a measurer of the quantity of heat contained in bodies. It consists of two large glass bulbs containing air, united by a tube twice bent at right angles, containing coloured sulphuric acid. When a hot body approaches one of the bulbs, it drives the fluid towards to other. Its principal advantage is, that in making delicate experiments, the general changes of the atmosphere do not affect it; but you must remember, that it only indicates the difference of temperature between the two balls. Sometimes a simpler form of air thermometer is used, consisting merely of a bulb with a tube at one extremity, which is plunged into coloured water, that is made to stand at any convenient height in the tube, by expelling a portion of air by the application of heat. As the air in the bulb may be heated or cooled, the fluid will rise or fall in the tube, and such variations may be marked by affixing a scale on the instrument.

Speaking of the *quantity* of heat, it must be borne in mind, that there must be twice as much heat in a quart of water as in a pint, yet the thermometer will only indicate the same degree of heat; the quantities

of heat which bodies, in the same state, require to raise them to the same thermometric temperature, is called their *specific heat*, and those bodies requiring most heat for that purpose, are said to have a greater *capacity* for heat. Dr. Black, of Glasgow, first showed, in his lectures in 1762, that the quantity of heat in different bodies of the same temperature, was different.

It has been said, in proof of the accuracy of the thermometer, that the mixture of equal volumes of the same fluid at different temperatures, will give the arithmetical mean of the temperature of the two; and that a mixture of a pint of hot and cold water will afford the mean temperature of the two, as indicated by the thermometer previous to mixture; but if you take a quart of oil, and a quart of boiling water, as indicated by the thermometer at 212°, and mix them, you will find if you attend carefully to what takes place, that the mixture will not possess the arithmetical mean of the two, but that there will be a certain quantity of heat absorbed. Now, it was to determine how this happened, that Lavoisier and La Place commenced a series of interesting experiments. They took a vessel properly constructed, into which they put a quantity of ice; and into the centre of this vessel, they put a given quantity of boiling water; the whole was then covered up, and so contrived, that the quantity of ice thawed in the cooling of the water, from the boiling to the freezing point, could be ascertained; and it was found, that twelve ounces of ice were thawed. They then took a quantity of oil heated to the same temperature as the boiling water, 212°, and they found that, on cooling the mass down to 32°, only six ounces of water ran out of the ice; so that they inferred, that the quantity of heat in the water, to that of the ice, was as 2 to 1. There are experiments, which might be made to show the same thing, namely, that the degree of heat, as shown to belong to bodies by the thermometer, differs from the absolute quantity of heat they contain. You will see, from this table, (pointing to one behind him,) the resulting temperatures of a mixture of bodies at different temperatures. Thus two portions of water mixed together, at

50° & 100° } afford a mean of 75°.

Water at 50°, Mercury at 100°, } a mean temperature of 70°.

A pint of water at 50°, A pint of oil at 100°, } a mean of 80°,

The *capacity* of bodies for heat is very different, and when you change the form of bodies you change their capacity for heat; and this is the case with regard to solids, liquids, and gases. On condensation, solids lose their capacity for heat; by hammering iron on an anvil you squeeze out the heat from it, to use a vulgar phrase; but if you put it into the fire it again expands, and if allowed to cool gradually it again retains, when cold, the same degree of heat as before it was hammered. Now if you mix together two fluids, so that by their admixture their density shall be increased, as by mixing together oil of vitriol and water, a quantity of heat will be evolved, or the capacity of the bodies for heat, in other words, is diminished. On the contrary, if you suddenly expand or rarefy air, it becomes cold; the air in expanding has its capacity for heat increased, and whence is it to get its supply of heat but from itself? It is, therefore, clear, that if you compress air you produce proportionably a quantity of heat, and with a syringe of this kind by a small stroke of the piston you may set free so much heat from the air contained in the cylinder as to set fire to a piece of tinder attached to the piston.

Now it is easy to see how these facts bear upon natural temperature; as the air ascends it becomes rarefied, and cooling, deposits its moisture on the mountain tops; and on the other hand, as it approaches the earth, it becomes more dense, its capacity for heat is greater, it absorbs moisture from the earth's surface, which being conveyed in its turn to the upper regions of the atmosphere, is again deposited in the form of rain and dew, or snow and hail, as the temperature of the medium through which it has to pass may be hot or cold. The temperature of mines may be easily accounted for by the increased pressure to which the atmosphere of the mine must be subjected by the weight of the column of air above it.

In the next lecture the various *conducting powers* of bodies in regard to heat will be considered, and also the nature of *latent* heat.

Lecture VI.

On Heat.

Gentlemen,—It happens, that when different bodies are exposed to the same source of heat, they allow it to pass through them with unequal velocity, and the body is said to have a greater or less *conducting power* in proportion to the celerity or tardiness with which it becomes cooled down to the temperature of the surrounding atmosphere.

Among the solid bodies, down, feathers, wool, cotton, and other light and porous articles of clothing, are bad conductors of heat, and are therefore chosen for that purpose; next to them we may rank light earthy bodies and wood, and from some ex-

periments of Professor Mayer, of Erlangen, it appears that the conducting power of different woods is in proportion to their density, as you will see by the table behind me. Thus, assuming water to have the specific gravity of 1.000, and its conducting power 10, the conducting power of ebony wood will be 21.7, and its specific gravity 1.054; apple tree 27.4 and 0.639; ash 30.8 and 0.631; beech 32.1 and 0.692, and so on. Next to them we may name silicious and hard stony bodies in general; then glass, the topaz, and the diamond. But of all solid bodies, the metals are best conductors, and silver, gold, and copper are better conductors than platinum, iron, and lead.

Liquids are bad conductors, and on this subject we may advert to the experiments of Count Rumford. He took a large glass jar of this kind, having filled it with warm water, he put at the bottom of it a lump of ice; the water about the ice formed a stratum of ice-cold water, as was shown by immersing a thermometer into it, and it required a long time to make that water warm. But there is a number of simple experiments to show the same thing. In the process of distillation, you know that the steam enters the worm tub at the upper surface of the water, and the water in the upper part of the tub will become almost boiling hot, whilst the water in the bottom of the tub remains quite cold; therefore, when we wish to heat a mass of water, we do not apply the heat at the top, which would be an endless job, but we apply to the bottom of the vessel containing it, and the ascent and descent of the heated and cold portions of water constitute the phenomena of boiling.

Now here is an apparatus with which the bad conducting power of water may be easily shown: we have an air thermometer immersed in a vessel of water, and you will find, that although we apply heat to the surface of this liquid, we shall in vain look for any elevation of temperature in the water beneath. The water about the fire becomes very hot, and that stratum of the water will remain hot without communicating the heat downwards, and consequently without producing any effect upon the air thermometer below. I might show you a number of experiments to prove, that if fluids do conduct heat, they conduct it very imperfectly. You might boil the surface of water in a vessel in which ice was at the bottom. Another mode of determining the same fact is this; you take a glass cylinder, in which an air thermometer has been placed, and you pour some boiling oil on the surface of the water; the thermometer does not rise, although it may be held very near to the surface of the water. It has been found, however, by experiments made with extreme caution, and taking into account the conducting power of the sides of the vessel, that heat does ultimately make its way downwards through the liquid; but it must be still considered that fluids have a very weak conducting power.

Air is an equally bad conductor as water, and indeed worse; you may make substances red hot in the air contained in the upper part of a vessel, yet the air below will remain cool; this experiment, however, is difficult to show in a class room. We arrive, then, at this general conclusion, that heat passes through solid bodies with various degrees of retardation of its progress, and that it passes through them equally in all directions. We find that different solids retard the heat very differently, as shown in their different conducting powers; and in regard to liquids, we find that they are all very bad and very imperfect conductors of heat, the exact conducting power of each not having been determined, and that air is a still worse conductor of heat. I may refer you to the experiments of Count Rumford, described in the Philosophical Transactions of 1792, respecting the conducting power of different materials used as clothing. He heated the thermometer to 100°, and having enveloped the bulb in different kinds of material, he measured the time it required to come down to the temperature of the atmosphere, and he found that that time was directly according to the conducting power of the substance in which the thermometer was enveloped. The relative conducting powers of wood, metal, and other substances, are shown in a number of familiar applications, as when wooden handles are fixed to metallic tea-pots. The experiments made by the late Lord Stanhope may be mentioned as showing the different conducting powers of wood and the metals. He placed a piece of paper around a metallic cylinder, and held it over the flame of a candle. (Mr. Brande repeated the experiment.) It will be long before the paper will burn, and the reason is very easy to see, the heat is diffused over the surface of the metal, as fast almost, as it is communicated to the paper; but if you envelop a piece of wood with paper, and expose it in the same way to the flame of a lamp, the heat is not rapidly distributed, and therefore the paper speedily burns.

We now proceed to another very important part of the subject of heat, namely, that which relates to its effect upon the *state* or *form* of bodies.

We purposely avoid entering here into the state of heat, as connected with decomposition, or chemical change. It is very generally known, that when solids are heated they have a tendency to become liquid, and liquids to be converted into gaseous or aëriform bodies; cool a liquid and it becomes

solid; this is generally the case, and you have a familiar illustration of this fact in the case of water and ice. Heat water and you convert it into steam; the steam, as it cools, becomes converted into water, and the water, on further cooling, into ice. We are indebted to the late Dr. Black, of Glasgow, for an important series of observations upon these subjects, and his researches deserve to be ranked among the most admirable efforts of experimental philsophy. I shall endeavour to give you an abstract only of these experiments, because to enter into detail would require too much time. In prosecuting his investigations, Dr. Black was forcibly struck with the extreme slowness with which ice thaws. If, for instance, you bring ice into a warm room, it is a long time before it begins to run down into the liquid state; and there is a still more remarkable fact, which is this, if you put the bulb of the thermometer into the ice, it will fall to 32°, and will remain there until the whole of the ice is melted. Now it is clear that heat is communicated to the ice from the surrounding atmosphere of the room, and yet the effect of that heat is not to elevate the thermometer, but to melt the ice. Suppose you make the experiment with water instead of ice; you take a portion of water at 32°, and put into it a piece of ice; you bring the vessel, containing the water and the ice, into a room, the temperature of which is at 60°; you will find that the temperature of the water will ascend gradually to 60°, but the temperature of the ice will not ascend until the whole is melted, and then it rises. The Doctor called the heat, absorbed during the melting of the ice, the heat of fluidity, and having observed it to affect the state of the body without raising the thermometer, he called it *latent heat*, or the quantity of heat conducing to make the ice liquid. He then proceeded by a new series of experiments, to determine the quantity of heat that became latent during the conversion of ice into water, and he found it very considerable. He did this in two ways: in the first, he brought the ice into a warm room, and ascertained the time required to thaw it; he then estimated the quantity of heat which had entered the ice in that time.

In another suite of experiments, he mixed a quantity of snow and finely powdered ice with a quantity of boiling water, and he observed that a quantity of heat suddenly disappeared to liquify the ice. Here are the results of one or two of his experiments, set down on these tables. He mixed water at 32° with water at 212°, and he found, as he suspected, that the mean was 122°; but on making the experiment under the same circumstances, but taking *ice* at 32° and water at 212°, he found that the mean temperature was only 52°; so that, you observe, a large quantity of thermometric heat disappeared in order to melt the ice. He then found, that when he took ice at 32° and water at 172, the result was a quantity of ice-cold water at 32. Here the water was cooled 140°, while the *temperature* of the ice was unaltered, that is, 140° of heat disappeared, the effect being not to increase temperature, but produce fluidity. You see what an immense loss of heat there is in the conversion of ice into water; and you observe that the thawing of ice must, under ordinary circumstances, be only a slow process, and hence it is that natural temperatures are changed by very slow degrees; you have not a sudden transition from heat to cold, but a gradual and slow change of temperature.

Having made these experiments to determine the quantity of heat, or the thermometic quantity of heat in water, it next occurred to Dr. Black, that the liquifaction of other solids ought to be obedient to similar laws. He took a piece of lead, and he found that, until all the lead was melted, he could not raise the temperature of the melted lead beyond a certain point; but as soon as the whole mass was melted, he could convert it into vapour by increasing the temperature. There is, of course, a different degree of heat necessary for the liquifaction of different substances. In the case you have just seen, of mixing a quantity of powdered ice with hot water at 172°, you perceive that there is a sudden loss of 140 degrees of heat; but whenever you liquify a body, it must of course produce cold, and if you set out with bodies already very cold, you will still lower their temperature, and we often produce artificial cold of great intensity by the rapid solution of certain saline substances in water. Mix together common salt and ice; in consequence of the action of the salt upon the ice, a quantity of water will be immediately produced, and a portion of the salt be dissolved, forming brine; if we examine the temperature of the brine, we shall find that it is many degrees below the previous heat of the ice, many degrees of heat having been taken from the ice by the liquifaction of the salt; and this is the common process of obtaining a large degree of cold, artificially, by purging mixtures, and so on. If you dissolve a salt in water, you will find that there is a great lowering of its temperature. Here is a mixture of sal-ammoniac and nitre, and if you dissolve them in water, especially if the water be cold, there is a sudden lowering of the temperature, in consequence of the sudden liquifaction of the salts, and you may, without difficulty, freeze small portions of water in this way. Here is nitrate of ammonia, which dissolves rapidly in water,

and produces a considerable degree of cold. Take equal portions of nitrate of ammonia and water, the cold produced on the dissolving of the salt is very considerable, and of course the colder the vessel the more immediate the effect would be. I should observe here, however, in making these experiments, that you should use the salts recently crystallised and finely powdered. This table shows the results of some experiments made on this subject by Mr. Walker; he found that, on dissolving the salts, here set down in water, the thermometer sinks as indicated.

MIXTURES.		THERMOMETER SINKS.
	Parts	
Muriate of ammonia	5	From 50° to 10°.
Nitre	5	
Water	16	
Nitrate of ammonia.....	1	From 50° to 4°.
Water.....	1	
Sulphate of soda	5	From 50° to 3°.
Diluted sulphuric acid	4	
Snow	1	From 32° to 0°.
Common salt.....	1	

Thus you see that considerable degrees of cold may be artificially produced, and by mixing together some substances, in different proportions, you may carry the temperature down to 90° below zero, as by mixing ten parts of diluted sulphuric acid with eight parts of snow, the thermometer sinks from 68° to 91°.

Now it becomes necessary to show you the converse changes, namely, to show you that heat would be evolved when fluids are converted into solids. When you freeze water, you must let out a certain quantity of heat, and whenever you condense a liquid, or bring a liquid into a solid state, there is a great evolution of heat. I need only to present you with a single instance: if you condense water by pouring it, upon quick lime, it enters into composition with the lime, and in consequence of this rapid condensation, you know that a great degree of heat is evolved, often sufficient to set fire to shavings of wood, and other combustible bodies, which may happen to be near. The crystallisation of Glauber's salt is attended with a sudden evolution of heat, and this happens in all cases where you convert a liquid into a solid; congelation, therefore, is to the surrounding bodies a heating process, and liquifaction a cooling process.

Dr. Black having made out these facts, in regard to the conversion of liquids into solids, and solids into liquids, then proceeded to examine the effects of heat upon liquids themselves; and here there is a circumstance closely corresponding to that already pointed out, in regard to the thawing of ice in a warm room; if you put a portion of water over a lamp, and immerse a thermometer in it, you will find that the thermometer will go on rising until the water boils, but the moment it boils, the thermometer shows no further increase of temperature. Dr. Black proceeded to examine the cause of this interesting phenomenon. There is an increase of heat applied to the vessel, but there is no increase in the temperature of the water, the effect of that surplus heat being to convert the water into steam, which contains a large quantity of latent heat, but condense the steam into water, and a large quantity of heat is given out. Before I state to you Dr. Black's experiments, to determine the quantity of heat thus believed to be consumed in the conversion of water into steam, it will be well to advert to the boiling of liquids generally. Now they boil at different temperatures, and yet the boiling point of water, for example, is often spoken of, as if that were an invariable point of temperature, whereas nothing can be more variable; it depends very much upon the pressure to which they are subject; and when

we say that water boils at 212°, we mean that it does so under the pressure of an atmosphere equal to a column of thirty inches of mercury, or thereabouts, equal to about 14 or 15 pounds upon each square inch. Of course, if you diminish the pressure, you diminish the temperature of the boiling point; and if you increase the pressure, and put two atmospheres upon the water instead of one, the boiling point will be increased. Accordingly, as you find that the atmosphere is always varying in its pressure on our earth, the boiling point of water is always changing, sometimes being at 208°, sometimes at 210°, sometimes at 212°, and so on. Another cause which influences the boiling point, is the nature of the vessel in which the liquid may be heated. In glass vessels, liquids boil at two or three degrees higher temperature than in metallic vessels, because glass is a more irregular, and a worse conductor of heat than metal. But if you introduce a bad conductor into the vessel, as a few shavings of wood, you will find that the boiling point will be lessened, that is to say, under the mean atmospheric pressure. If then you ascend a mountain, of course you have a less atmospheric pressure, and the water will boil at a less temperature. Saussure accordingly found, that on the summit of Mont Blanc, water boiled at 187°; and, on the contrary, in a deep mine, it will boil at a high temperature, because then the atmospheric pressure is greater, in proportion to its depth. The Rev. Mr. Wollaston constructed a thermometer so nicely, that he could tell the difference of temperature in the different stories of a house, and he proposed to determine the heights of mountains, by forming a scale from it. The thermometer is so delicate, that it is seldom employed in barometrical experiments generally resorted to.

Now, to show you that pressure influences the boiling point with extreme facility, we may introduce under the receiver of an air-pump a small quantity of warm water, and we shall find that the water will boil at a much less temperature, than when exposed to ordinary atmospheric pressure. Again, if we increase the pressure, it will boil at a greater temperature; and it is of importance to us to know, that the temperature of the steam is always the temperature of the liquid, at the time of boiling; and we shall be able, by and by, to show you that water boils at a temperature below the freezing point. Other liquids, such as the spirit of vitriolic æther, and so on, will boil at the common temperatures of the atmosphere, when placed in an exhausted receiver of an air-pump; and were it not for the pressure of the atmosphere, we should have all liquids converted into a gaseous or aëriform state. We use the term boiling, therefore, to express the conversion of a fluid into vapour.

There is an experiment called the chemical paradox; because the manner in which the experiment is made, and its effect, are very paradoxical. Here is a Florence flask, to which is appended a stop cock; you put some water into it, and cause it to boil; you have then an atmosphere of steam upon the water which is invisible, you turn the stop-cock, and the boiling ceases. You plunge the vessel into cold water, the water will again boil, because the steam has been condensed, and the pressure of the atmosphere of steam is taken off from the surface of the water.

There are a few facts remaining to be noticed, which must be deferred to the next lecture, when the circumstances under which heat disappears will be pointed out, and the subject concluded.

WESTMINSTER MEDICAL SOCIETY.

H. Mayo, Esq. in the Chair.

After the minutes of the preceding meeting had been read, and some private business transacted,

Mr. Duncan rose, to give an account of the highly interesting case of aneurismal disease in the temporal arteries, at present in the Hospital of Surgery, and which has been already so fully detailed in the previous Numbers of The Lancet, in which he made a very full, clear, and candid statement of the appearances of the disease, and of the history and progress of the patient; and after relating Pelletan's opinions and practice, in a similar instance, proposed, as questions of great importance for the consideration of the Society; 1st, What are the true anatomical characters of this tumour? 2d, Does it consist of mere dilatation of arterial branches, of a varicose state of the temporal veins, or like nævus maternus, is there any distinct parenchyma through which the blood circulates? 3d, Is the loss of the eye referrible to the operation, or to the disease of the brain? and 4th, What is the plan of treatment most advisable at present, the tumour having again increased considerably in size? To these interesting points, Mr. Duncan begged to call the attention of the Society, hoping that the members would be able to throw some light on them, which might be of use to the patient, at the same time acknowledging his own inability for the task.

Dr. BARRY passed a very high encomium on Mr. Duncan, for having brought forward this very interesting case, and likewise, for the very correct manner in which he had detailed its features. He had seen the patient, both before his admission into the Hospital of Surgery, and frequently since, and had paid a great deal of attention to the case. He neither considered the disease to be one purely affecting the arteries, nor the veins, but he thought that a new structure had been developed, which communicated with both, and which resembled what has been denominated by the French "erectile tissue." He had observed, that when the main artery, (for the tumour had several inosculating branches running to supply it,) was compressed, the pulsation was diminished, and the size of the swelling considerably lessened. He thought that the disease bore much analogy to a case related by Dr. Frost, in which, from the wound of the femoral artery and vein from a shot, several bleeding tumours had formed in the limb, which, on dissection, were found to consist of a parenchyma, communicating with small arteries and veins. A full account of the present case had appeared in THE LANCET, from very able hands; but there was one statement which he did not think correct, viz. That the pulsation of the tumour was not synchronous with that of the heart. In regard to the subsequent line of treatment, he thought that the tying some of the vessels, which still supplied the tumour, particularly the one coming across the vertex of the head, and that from the occiput, would be attended with advantage. He had strongly advised the ligature of the carotid, when Mr. Wardrop did him the honour of consulting him on the propriety of that operation; and he thought, that from the number of successful cases related, where that vessel had been tied in disease of its branches, he had a right to expect a cure.

Mr. BABINGTON, at the request of the Chairman, observed, that the patient had been originally under his care, but that he had not seen him for the last four months. He had considered the disease to be one of pure varicose enlargement, and accordingly, had attempted to secure the temporal vein below the tumour. During the operation, however, he found great difficulty in separating the vein from the artery, and therefore he included both in a ligature. This operation had the effect of diminishing, for a time, the size of the swelling, which, as long as he had observed it, never appeared as if about to burst. He considered that in this case the cranium was affected, but at the same time observed, that there was much difficulty in forming a correct diagnosis on this point, as bloody tumours of the scalp frequently afford a delusive feeling.

Mr. HUNT wished to know on what principle Mr. Babington applied the ligature to the vein after it came out of the tumour. This operation appeared to him calculated rather to increase than remedy the evil.

Mr. BABINGTON replied, that he had performed the operation on the same principle which led Sir Everard Home to divide the saphena vein of the thigh in varix of the leg, but he admitted that the good effects of the Baronet's operation might result from the weight of the column of blood being thus taken off, and that perhaps the present instance was not strictly analogous; but, however, as the operation was one of a trivial kind, he had deemed it advisable to give it a fair trial.

Mr. MAYO thought that the operation of tying the carotid artery was quite uncalled for, as the ligature of the temporal had not been advantageous. He thought that the excision of the tumour would have succeeded, and that this was one of those cases which had been frequent of late, where a dangerous operation had been performed *gratuitously*.

Mr. HUNT could not allow these observa- of Mr. Mayo to pass without comment. He pointed out the propriety of the ligature of the carotid in this patient, where so many of its branches, as well as the temporal, were affected, showed the impossibility of curing the disease by excision, without cutting away the brain also, and characterised the term "*gratuitous*," as one of a very harsh kind to apply to a brother surgeon.

Mr. MAYO explained, that he did not apply the term "gratuitous" to the present operation, but rather perspectively.

Mr. BABINGTON stated the reasons for tying the carotid artery, supposing the disease to be connected with the arterial system, were well founded, in so far as the ligature of the temporal artery alone could not have cut off the supply of blood.

Dr. JOHNSON observed, that no remarks had as yet been made in regard to the future line of treatment to be pursued, which was one of the points the author of the paper had directed their attention to. For his part, if he had the misfortune to have such a tumour on his head, he should have an incision made round it, so as to circumvallate the disease, and thus at once cut off the connexion with arteries and veins. The subject of the loss of the eye was, he thought, to be referred to the operation.

A foreigner, Dr. Negri, here handed an account of some experiments of the celebrated Magendie on the ligature of the carotid, to Dr. Somerville, who read it to the Society, in which that physiologist had produced ulceration of the cornea, by tying these arteries in rabbits, by cutting off the supply of blood to the 5th pair of

nerves, and thus depriving them of their nervous energy.

Dr. JOHNSON said, that he could not conceive that the loss of nervous energy in the 5th pair was the cause of the destruction of the eye, since that effect had never been produced in any of the other numerous instances where the carotid artery had been tied.

Mr. MAYO asked Dr. Johnson how, if an incision were made round the disease, the circumvallated part would be nourished; he thought it would be likely to slough; to which Dr. Johnson replied, "from its connexion with the pericranium."

A rambling discussion now ensued as to the proper plan of treatment, in which one gentleman thought it would be advisable to produce inflammation in the diseased structure, by puncturing it with a needle; while another recommended the application of pressure, and a third supported Dr. Johnson's proposal of circumvallating the tumour by means of an incision; but nothing of importance was elicited, and after the announcement that a paper on the diseases of the testicle would be read at the next meeting by Mr. Lambert, the Society adjourned.

HOSPITAL OF SURGERY,

Panton Square, St. James's.

SINGULAR CASE OF PSOAS ABSCESS, COMMUNICATING WITH THE GUT, AND CONSEQUENT FÆCULENT EFFUSION.—POST-MORTEM EXAMINATION.

THE following extraordinary case, the only one of the kind we recollect ever to have heard of, occurred in the private practice of Mr. Whitmore, of Cold Bath-square, who, with his usual liberality, sent the unique preparation procured from it to the Museum of this Hospital, with an accurate history of the patient, from which we extract the subsequent account.

Mrs. S., æt. 41, on the 11th of May, having for some time previously been subject to *rheumatic* pains in the back and loins, although she enjoyed tolerable health, was attacked with severe pain in the epigastric and hypochondriac regions, for which there was no apparent cause, and with nausea, hiccup, and frequent eructations. Her pulse was quick, her countenance anxious, bowels open. These symptoms were readily relieved by the employment of purgatives, but they recurred frequently and suddenly afterwards, and were always alleviated by the same treatment, and on some occasions by the employment of a few leeches.

On the 9th of August, her general health being gradually declining, she was attacked with the above symptoms in a more aggravated degree; she became excessively weak, and her pulse was intermittent, and scarcely perceptible; her bowels were regular, and nothing particular was observed in the fæcal evacuations. It now became necessary to support her strength, and wine and brandy were accordingly prescribed. No alteration occurred in her condition, except that she daily became more weak and emaciated, till the 21st of September, when a considerable swelling, occupying the posterior surface of the last lumbar vertebræ, was observed. This afforded a feeling of fluctuation, not however very distinct, nor that which would result from even a small quantity of unmixed purulent matter. This tumour gradually increased in size, and seemed to be of a very diffuse nature, it being impossible to ascertain its limits; it now afforded a greater degree of fluctuation. At this time Mr. Wardrop visited the patient, and, with Mr. Whitmore's concurrence, made an opening into the swelling with a trocar; three ounces of a thin, excessively fetid, fluid escaped, and the opening was immediately closed; the patient, however, obtained no relief; a large quantity of fluid, of a most offensive odour, continued to drain away; she sunk gradually, and on the 12th of October died, without the manifestation of any new symptom.

Sectio Cadaveris.

On laying open the abdomen, which was much swollen, a large quantity of air escaped, which had been confined in its cavity, and the intestines were found highly tympanitic; but not a vestige of inflammation of the peritoneum lining the parietes, or that covering the intestines, could be discovered. On tracing upwards the colon from the rectum, the descending portion of its great transverse arch was found to be adhering more strongly and extensively to the peritoneum covering the psoas muscle, which was singularly prominent, than it naturally ought. On opening, however, this prominence, a small quantity of very fetid fluid escaped, and there was exposed a large grey mass, composed of some foreign substance. On turning this out, it was discovered to be a large collection of inspissated feculent matter, and on tracing it in every direction, it was seen to extend behind the peritoneum from the border of the last rib to below Poupart's ligament, and from the anterior spinous process of the ilium to the vertebræ. It was in some places three inches

thick, and was contained in an enormous cavity, formed by the separation of the peritoneum from the psoas iliacus internus, and quadratus lumborum muscles. At the crest of the ilium, this mass communicated by a free destruction of the soft parts with the opening made by the trocar. The appearances were altogether so unusual, that Mr. Whitmore was at a loss to conjecture the real nature of the disease, but at last, on opening the gut, three large ulcers, one of which was nearly the size of a half crown, were discovered in the posterior part of the colon, forming a very free communication with the enormous fæcal evacuation.

On prosecuting the dissection still further, the transverse process of the second lumbar vertebra was found to be carious, and that of the first was exposed but not denuded of periosteum. The right lumbar region was now examined, and here, between the origin of the psoas and the peritoneum, there was a collection of a considerable quantity of pus; the posterior surface of the peritoneum was covered with threads of lymph, but no part of any of the vertebræ was either carious or even exposed, nor was there any opening in the peritoneum.

This case, whose progress was marked by few very distinct symptoms, was probably originally one of psoas abscess, which had pointed internally, and which, from the efforts of nature to relieve herself of the disease, had communicated with the gut. Here, however, from some cause which is enveloped in obscurity, fæces passed from the colon into the abscess, instead of pus into the gut. This extravasation gradually accumulating, produced the enormous fæcal abscess which appeared on dissection, and which, from the great inspissation of the fæces, must have been of considerable standing. The case is, besides, calculated to illustrate an obscure, though important, point in surgery, viz., the progress of psoas abscess, whether the disease of the vertebræ is a primary or secondary result. The dissection exhibited on one side, abscess with healthy vertebræ, and on the other, abscess with a carious, and higher up, a denuded vertebra; from which appearances there follows the necessary deduction, that in this case, at least, the disease of the vertebral column arose from the action of the matter, and was therefore merely a secondary effect.

CASE OF HYPERTROPHY AND DILATATION OF THE LEFT SIDE OF THE HEART, WITH OSSIFICATION OF THE MITRAL VALVE.

J. S., a performer on the violin at Saddler's Wells theatre, on the 15th of September, when first seen, complained of difficulty of respiration, cough, and copious viscid expectoration, of pain extending through the chest, and of headach; violent palpitation of the heart, which was found to pulsate over a great extent of surface of the anterior parietes of the chest. The pulse was full, and gave a particularly hard thrilling sensation to the finger. The beat of the radial arteries did not correspond with one another, and occasionally were not synchronous with the systole of the heart. He had a peculiarly anxious and livid expression of countenance. He was much distressed by want of sleep, during which he was disturbed by terrific dreams. He was generally able to recline in the horizontal position, but occasionally his respiration became so difficult as to oblige him to sit up.

He stated, that for several years he had been liable to severe palpitation of the heart on any sudden excitement, and to a slight degree of difficulty of respiration, particularly when ascending a height; but to these symptoms he had paid little attention. They had, however, gradually increased, and four months ago he was obliged to give up his employment. Since this time the symptoms had increased with great rapidity, till they had assumed their present dreadful magnitude. Venesection, leeches, digitalis, hyoscyamus, and opium, were the means employed; but these produced very slight and only temporary relief; the difficulty of respiration increased to complete orthopnœa, the palpitations were violent, hæmoptysis came on; he continually experienced a sense of impending suffocation, and one morning, while gasping at the window for breath, he instantaneously expired.

On dissection, the left side of the heart was found to be greatly enlarged. The cavities, particularly that of the auricle, were enormously increased in size, and the muscular fibres considerably thickened, but their enlargement did not in any degree correspond in the ratio of the dilatation of the auricle or ventricle. The mitral valve had lost entirely its natural structure, and had become converted into a piece of thick solid bone; its base was also osseous, and being thus rendered immoveable, it had entirely lost the power of closing the ventriculor-auricular opening, for when a large quantity of fluid was suddenly thrown into the ventricle from the aorta, it passed without resistance into, and filled the auricle. The lungs were found gorged with black blood, but not diseased. The other valves of the heart and its neighbouring vessels were sound, and their internal membrane exhibited no unhealthy appearance.

FOREIGN DEPARTMENT.

DISCOVERY OF MAMMÆ IN THE ORNITHORYNCHUS PARADOXUS.

It is well known to have been a common opinion, that the ornithorynchus and ornithorynchus hystrix were destitute of mammæ, and that upon this opinion was founded the argument for rejecting those animals from the class of mammalia. Cuvier, one of the latest writers on this subject, expressly states that they have no mammæ, and after a careful examination of the male ornithorynchus, I was myself unable to detect any trace, either of papillæ or glands. With respect to the female, after having opened the abdomen, and removed the greater part of the viscera, I was prevented by various occupations from continuing my investigation of this subject till the close of the year 1823, when on the 25th day of December, a day of good omen, I detected on the right side of the abdominal muscles a small round mass, which at first bore the appearance of a portion of intestine accidentally pushed into this situation, but upon carefully examining the left side, I discovered a corresponding substance. The evening was too far advanced to permit me to pursue my investigation, but on the next morning, after a night rendered sleepless by anxious expectation, I returned to my work, and found that this substance was beyond all question a glandular structure. I was equally satisfied that this gland was a true mamma, an opinion which was more forcibly impressed upon my mind from its structure and situation, from its marked development in the female, and the want of it in the male, or at least its existence in so minute a degree as to have hitherto eluded the closest examination.

The following is an account of the situation, size, and structure of the gland. It is placed on the side of the abdomen, between the fleshy portion to which it adheres very loosely, the obliquus descendens abdominis, and the anterior muscles of the femur, reaching at its upper extremity the external margin of the pectoralis major, and the lower extremity of the sternum. The marked development of this part renders it as surprising that it should hitherto have escaped notice, especially as so many ornithorynchi, and among these so many females, have been dissected. The length of this gland was four inches three lines; its breadth about one inch three or four lines; its greatest thickness four lines; its external shape is very oblong, as indeed is evident from these dimensions; its breadth is nearly uniform, but is a little narrower towards the lower extremity. There are exceedingly minute excretory ducts in the middle of the gland, which open externally. Although I could pass neither silk nor mercury through the ducts, which were of themselves, as I have observed, exceedingly narrow, and further contracted by the spirits of wine, and filled with a thick fluid, the area was nevertheless indicated in the skin. Although this part was covered with hair, there appeared, nevertheless, upon removing them, an opening of about five lines in length, and three in breadth, surrounded with about eighty minute foramina, from which the hairs proceeded, and which were probably the orifices of the excretory ducts. There was, moreover, in the centre of this opening, a small depression of about two lines in diameter, destitute of hair; but having several unequal rugæ, among which one, not equaling the size of a millet seed, was more conspicuous than the rest.

This discovery confirms the opinions of Oken and De Blainville, who, although they had never examined a female ornithorynchus, nevertheless asserted that there could be no doubt of the existence of mammæ, on account of the numerous analogies presented by that animal with the other mammalia. This discovery also refutes the arguments of those who inferred a want of mammæ from the absence of nipples, from the shape of the bill, which is by no means adapted for suckling, and from ova said to have been found in the ovaries, and in nests, though there can be no foundation for this last assertion.—*Meckel de Ornithorynchi Paradoxi. Lips.* 1826.

SCIENTIFIC INSTITUTIONS IN RUSSIA.

The University Library of St. Petersburgh, consists of 60,000 volumes; and that of Moscow, since the burning, contains already 34,000 volumes. The rich anatomical cabinet which the deceased Emperor Alexander purchased of the privy counsellor, Professor Loder, for 10,000 rubles, belongs now to the university of Moscow. Through the exertions of Prince Ealitzen, an economical society and a school for the education of future agriculturists, have been recently established at Moscow. The branches of instruction are the following: the Russian language, arithmetic, geography, statistics, rural architecture, surveying, book-keeping, agricultural chemistry, botany, the physiology of plants, the management of woods and forests, technology, farming, and the veterinary art. The course lasts five years. The Society publishes a journal in the Russian language, which has already accomplished much good.

The Museum, in Moscow, which has been newly rebuilt, now consists of four saloons.

It is much indebted to the Imperial Society of naturalists, instituted in 1805, which maintains a traveller in Brazil, for the objects of the Society. The chemical laboratory is, perhaps, the richest of all the collections. Among others are seen 360 models of various crystals, formed in wax, presented by the apothecary Schulz. The physical cabinet reckons upwards of 500 instruments, and different apparatus, although, after the destruction of the city, hardly 100 remained. The cabinet of coins has also been reformed. In 1817, it contained about 5000 of various descriptions, and since that time it has been much increased.

The Pharmaceutical School of St. Petersburg, which has existed since 1822, has recently, thanks to the generous patronage of the minister of the Interior, been endowed with a botanical garden, which will soon rival the finest and most complete of the kind in Europe. It was planned by F. Fischer, one of the greatest botanists in Russia, who is now director, and is the same who arranged the fine garden at Varioka, in the neighbourhood of Moscow. The garden at St. Petersburg already reckons upwards of 11,000 species, and 80,000 single plants.—*Foreign Quarterly Review.*

ENGLISH AND SCOTCH PHYSICIANS IN FRANCE.

Copy of Letter No. I. *from* Dr. ROBERTSON *to* Dr. ALLATT.

Boulogne-sur-Mer, Oct. 16, 1827.

I AM informed, that on a recent occasion you objected to the British physicians of this place as being Scotchmen, and only qualified with degrees from the Universities of their country, thereby insinuating that something inferior and derogatory was consequently attached to them as professional men. Could I hesitate in forming this opinion of the purport of your objections, the manner you addressed Mr. —— on Saturday last, by asserting, "You are the only regular physician in Boulogne," would put every doubt as to your motives beyond dispute. As I fall within the scope of your objections in every particular, no other apology will, I presume, be necessary for thus addressing you, to whose person I am even a stranger.

I shall on this occasion abstain from every remark on the conduct I have to complain of, in one so young in the profession as I am told you are; but as an individual, at least as well educated as you have been, and of long standing as a regular physician, you will not deny my right to call upon you to inform me why, without provocation, you have as above attempted to supersede my professional character.

I make this demand, not as an appeal to ascertain by your opinion the rank I hold in my profession, for neither your assertion, nor even an edict of your College, could deprive me of the honour as a graduate in the only University in the British dominions, where medicine, as a science and a practical art, with all its *collateral* and *ornamental branches*, is completely taught.

Being thus qualified as a regular physician at home, *and having the high honour to be recognised* as such in France, by his Majesty's most gracious approbation*, you cannot be surprised that I deny the exclusive pretension you arrogate to yourself as a medical man at Boulogne, or that you can possibly have the right of settling the rank of any other physician. I thus frankly state my ideas on the subject; and I will be happy to find you have been led into mistake from erroneous information.

I am, &c.

Dr. Allatt. H. ROBERTSON.

No. II.—Dr. ROBERTSON *to* Dr. ALLATT, *delivered about Eight o'Clock of the evening of its date, as* Dr. ALLATT *had taken no notice of the former Letter.*

Boulogne-sur-Mer, Oct. 18, 1827.

SIR,—It was not unforeseen that the letter I addressed to you on the 16th instant, would place you in rather an awkward position as regards your conduct to me; for you must have either replied to my letter, and thereby given up the *absurd idea* of exclusive pretensions in the school to which you belong, or by your silence give me room to infer, that while you obtained exclusive right as a *regular* physician at this place, you knew that I was a graduate in a University the most celebrated for the study of medicine in the United Kingdom. *This, it would appear, has been your choice*, and I shall therefore take care to obviate a repetition of such conduct as I complain of, by the publication of this and my former letter to you, with such comments as I think proper to make. In the mean time I will flatly contradict, personally and by my friends, in the most unequivocal manner, any such arrogant assertions as those pointed out in my last letter.

I have not hitherto called upon you to show by what right or privilege you arrogate superior rank as a medical man at Boulogne, and my reason for refraining to do so is, because I do not consider your quali-

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* In reference to Dr. Paris's College Oration.

fications even so good as those of the other physicians here, and upon that opinion I have appealed to the authorities of this place.

I am, &c.

Dr. Allatt. H. Robertson.

No. III.— *From* Dr. Allatt *to* Dr. Robertson.

17th October, 1827.

Sir,—If amidst the various "ornamental studies" of your University you have bestowed any time upon that of politeness, and think proper to send me a letter as from one gentleman to another, I may probably feel disposed to reply to it.

I am, &c.

Dr. Robertson. Robert Allatt.

No. IV.—Dr. Robertson *to* Dr. Allatt.

Saturday Morning, Oct. 19th, 1827.

Sir,—In reply to your note, *received last night about 9 o'clock, dated, I presume by mistake, the 17th instant,* I have only to observe, that I should regret exceedingly were my letters to you couched in terms unbecoming a gentleman on such an occasion. True, that feeling myself aggrieved, my language is not that of a suppliant. But as you have taken two days to discover the impoliteness of my language, instead of coming promptly forward as soon as your error was pointed out; and as *neither the subject*, my time, nor my health, permit me to study a more agreeable style, I must decline the honour you hold out to me of a further correspondence; which I conclude by assuring you with much satisfaction, that *with us* politeness does not enter into an ornamental education in the way you seem to have studied it.

I am, &c.

H. Robertson.

It might have been expected from the lofty and presumptuous tone of Dr. Allatt's note, which would be even disgusting and unjustifiable coming from the highest official rank, that he should have been satisfied with the temperate manner Dr. Robertson declined his correspondence; and he might congratulate himself that he was not addressed in terms not only applicable to his note, but to his conduct throughout this business: for he has afforded astounding specimens of the delicacy of his moral feelings, as well as of his great modesty and exalted notions of politeness. However, we find that on Saturday night the 20th instant, Dr. Allatt sent another letter to Dr. Robertson, which circumstance was noticed thus:—

No. V.—*From* Dr. Robertson *to* Dr. Allatt.

Saturday night, Oct. 20th, 1827.

Sir,—I am sorry, that instead of opening your letter left at my house this night, I can only refer you to my letter of yesterday's date, for my reasons for declining further correspondence. That letter was in reply to a note from you, which, in my opinion, presents an insuperable bar to its continuance.

The letter addressed to me lays at your service when you choose to send for it.

I am, &c.

Dr. Allatt. H. Robertson.

ABUSES IN THE WESTMINSTER HOSPITAL.

To the Editor of The Lancet.

Sir,—The interest you have at all times taken in whatever concerns the medical student, induces me to lay before you the shameful manner in which the unfortunate young men, who have entered to the surgical practice of the Westminster Hospital, are treated by the medical officers of that establishment, with the exception of Mr. Guthrie. I need hardly point out to you, Sir, of what consequence it is, both to students and patients, that the surgeons should be punctual in the time of visiting the wards, and yet I assure you, Sir, we are kept waiting in the hall from twelve until two o'clock, very often without seeing one of them, (excepting Mr. Guthrie,) unless as they pass us in their way to the board-room, where they remain, compelling us, if we are resolved to see them again, to lose, by so doing, our lecture on anatomy, which, at this end of the town, is delivered either at two or half-past. Whenever there is a general board meeting, (and at this hospital there are many,) we have no chance of at all beholding them before half-past two. This was the case last Saturday, when most of the students came away in disgust, without having seen a single patient, loudly exclaiming against such infamous conduct on the part of those who promise to instruct them, and for which they paid liberally, one and all declaring they had no remedy, unless in an application to The Lancet. If the surgeons will attend the meetings of the board, let them do so at the expense of their own time, but first of all do their duty by visiting their patients, and permit the student to attend to his other avocations; they may then display their oratory in the board-room as much as they please; but this would not answer their purpose: they can spare only a given time to the hospital, and

that having elapsed in arranging what might well be done without them, they either hurry over their patients (most of the students, however, having left for their anatomical lecture) or appoint the house-surgeon to see the patients for them. If you attend the hospital on any Wednesday or Saturday, you will find the case as I have stated, especially if there is a general board meeting. Should there not chance to be one, you will most probably find they have not come at all; or if by accident they have, they are all at the *same* moment of time making the round of the hospital. Is it not most infamous that such a system as this should exist, whereby we are deprived both of our money, and, what is of more consequence, our time? I write warmly, and perhaps too much so; but had you, Sir, week after week, walked a mile and a half to the hospital, and after waiting two or more hours, not seen a single patient, and then on your hastening to your anatomical lecture found it nearly over, you would think there was sufficient cause for being vehement on the occasion, and regret with me, there was to be found in our profession men so grossly negligent of our interest, and their bounden duty, and some of these very men Examiners of the London College of Surgeons, who nevertheless expect us, with such instruction, to possess "sound chirurgical knowledge."

Such conduct as this sufficiently explains the necessity that existed for making their by-law, by which we are prevented attending the Continental schools, which law has enabled them to *oblige* us to attend *their* hospitals, and allowed them, at the same time, either to attend themselves or not. Luckily for us, we have still the hope of a remedy, by exposing their conduct in the pages of your Journal. Trusting that you will advocate our cause, as well as that of the Borough Students, and apply THE LANCET until you compel them, from shame, to perform their contract with us,

I have the honour to be, Sir,
Your very respectful well-wisher,
A PUPIL.

October 29.

ON THE TREATMENT OF ERYSIPELAS, BY S. COOPER, ESQ.

To the Editor of THE LANCET.

SIR,—IT is hardly necessary for me to remind you, that your reports of the proceedings at Medical Societies, will not deserve the notice of the profession unless made with strict fidelity and impartiality. In your last account of the meeting of the Medico-Chirurgical Society, you have given a very erroneous statement of the remarks which I ventured to make on the subject of erysipelas. In the first place, I never asked my friend, Mr. Lawrence, "whether he meant to inculcate the necessity of making incisions in cases of erysipelas, where neither suppuration nor sloughing had occurred?" As I knew that this was his doctrine, the question would have been superfluous. Secondly, I never alleged, that I "could not see the necessity of making incisions at all." Thirdly, I never made use of the absurd and contradictory observation, that I "would never attempt such a practice, *till I had had more experience of its benefit.*" Instead of these remarks, my first observation was, that, in hearing Mr. Lawrence's cases read, I had taken particular notice that in some of them his incisions were of moderate extent, and had not been made before suppuration, or a sloughy state of the cellular membrane had occurred. To this method, under the circumstances specified, I said, that no objection presented itself; in fact, the practice was long ago recommended in my surgical writings. The great point on which I presume to differ from Mr. Hutchison and Mr. Lawrence, is that concerning the alleged utility of making *numerous*, or *very extensive incisions* into parts affected with phlegmonous erysipelas, with the view of *preventing* suppuration and sloughing. I contended, that these evils are not so frequently the consequences of phlegmonous erysipelas, when properly treated by milder means, as to form a justification of the practice of making for their prevention incisions, sometimes amounting to a foot or two in length. And, in proof that such practice was not infallible, I adverted to three cases, which had proved most unfortunate. In one, a case candidly reported by Mr. Lawrence himself, the patient died of hæmorrhage, soon after an extensive incision had been made. In another instance, the patient never revived from the shock communicated to the system by the infliction of an enormous wound on the erysipelatous parts. In a third case, in which the knife had been freely used in an early stage of the case, in the manner suggested by Mr. Hutchison, the patient recovered with great difficulty, and not without sloughing of the greater part of the integuments of the arm. I also mentioned, that seven cases of erysipelas had been attended by myself, in the course of the last eight months, and though some of them were of a very severe form, corresponding, in every respect, to phlegmonous erysipelas, they all had a favourable termination; and that, in only one or two of these examples had it been necessary to make a small opening or two, for the discharge of matter. One of these last cases I

attended with my friend Mr. Lawrence in private practice.

In severe cases of idiopathic erysipelas, I always begin the treatment with bleeding, and the exhibition of twenty grains of ipecacuanha, and follow up these means by saline aperients and antimonials. When the acute stage of the disease is over, and the patient is aged, or much debilitated, I recommend bark, the sulphate of quinine, wine, and a nourishing diet. When the case arises from local injury, or irritation, I frequently apply leeches, and sometimes find cold applications better than warm ones.

These observations will show, that my disagreement with the advocates for incisions, in the treatment of phlegmonous erysipelas, is founded upon facts; that my disapprobation of moderate punctures or incisions, does not extend to cases where matter or sloughs require discharge; and that I concur with my friend Mr. Lawrence in the frequent efficacy of bleeding in the early stage of the disease.

I remain,
Sir,
Your obedient Servant,
SAMUEL COOPER.

71, Great Russell-street,
Bloomsbury-square.

ST. THOMAS'S HOSPITAL.

INTERESTING CASE OF AMAUROSIS, DEPENDENT UPON A CEREBRAL TUMOUR.

ELIZABETH JONES, 31 years of age, of dark complexion and florid countenance, was admitted into the hospital on the 6th of September, under the care of Mr. Travers, on account of an imperfect state of vision. She stated that her employment was that of a cook in a large family, and where she had consequently been exposed to the glaring light of strong fires: her sight had been tolerably good until within the last six months previous to admission, when it began to fail,—she could not discern objects at a distance, as they appeared to be clouded and confused. Her general health, she said, was tolerably good, but she had experienced dull aching pain at the back of the head, and the catamenial discharge had always been irregular, being sometimes very sparing in quantity, and at other times occurring at longer intervals than natural.

When admitted, the power of vision in the left eye was but slightly impaired; the sight of the right eye was nearly extinct—the pupil of the former was dilated and obedient to the stimulus of light, the right pupil, however, moved very faintly, and was widely dilated. With the exception of a slight irregularity at the under and outer edge of the right pupil, there was nothing unnatural to be detected in the appearance of the eyes—the cornea was perfectly transparent, and looking through the pupillary opening, there was no perceptible opacity in the posterior chamber of either eye. Indeed it was matter of remark that the girl had "a pair of beautiful black eyes." The pulse was regular, and bowels moderately lax; and it is also worthy of observation, that the patient had been for some time under the care of Mr. Ware, who directed cupping, blisters, and the exhibition of mercury, until tenderness of the gums was produced.

Mr. Travers prescribed *five grains of blue pill, with five grains of aloetic pill*, night and morning: these were continued for ten days, when the mouth not being at all affected, the pills were ordered to be taken three times a day. The pain in the head at this time had increased, and the state of vision was much the same; a blister, therefore, was directed to be applied to the temple and kept open, and ten ounces of blood to be abstracted from behind the right ear by means of cupping.

On the 19th of September ptyalism was complete, and the pills in consequence were discontinued. From this period to the 3d of October there occurred but little important to remark; the vision of the left eye gradually diminished, and the pain of the head was unrelieved. A blister was applied over the forehead, and a seton inserted in the nape of the neck.

On the 3d there was some improvement in the patient's health, she had recovered from the ptyalism and was able to take her food.—Mr. Travers, at this visit, prescribed the following draught, to be taken three times a day:—

Carbonate of ammonia, four grains;
Tincture of hop, half a drachm;
Infusion of cascarilla, twelve drachms;

and a blister to be applied to the nape of the neck and to the forehead.

Mr. T. also, on this occasion, remarked that he considered the defective state of vision attributable to some *cerebral disease*. From the date of the last report to the 20th, a period of seventeen days, we found on visiting the patient at intervals, that the vision of the left eye became gradually extinguished; the pain in the head constituting a prominent and distressing symptom throughout the whole of the time. On the 22d, there was violent pain in the head—the bowels being constipated, five grains of calomel were given, and an aperient saline draught ordered to be taken three times a day. On

the 24th, the pain was excessively severe and delirium was occasionally present; the draught was continued, with the addition of half a drachm of tincture of henbane, and ten leeches were applied to the temples. The poor girl sunk on the following day, it appears somewhat unexpectedly, for we do not learn that any remarkable change took place, except for a very short period previous to her decease, when she became insensible.

Post Mortem Examination.

This was made by Mr. Ward, the dresser, on the following day. The head only was examined, in consequence of objections entertained by the friends of the patient, and the following appearances were observed.—The brain externally, and the membranes were healthy, but on making an horizontal section of the substance of the brain, in order to show that peculiar arrangement of medullary matter to which the term *centrum ovale* is applied, a bulging or distention of the roof of each lateral ventricle was very apparent. And when the ventricles were opened a large quantity of serous fluid escaped: they contained about an equal quantity of fluid, and nothing further was remarked in the left ventricle; but in tracing the descending cornua of the right ventricle, an hydatid of the size of a marble was found lying upon the plexus choroides, but not attached thereto. The third, as also the fourth ventricle, contained serous fluid—we suppose that the whole of the serum, contained in all the ventricles, amounted to upwards of two ounces.—The examination was continued by raising the brain at its base, and cutting through the origins of the nerves, but in pursuing this it was found that the under surface of the brain was so firmly adherent to the back part of the petrous portion of the temporal bone, that it was with difficulty separated. This attachment was owing to a tumour proceeding from the brain, of the size of a pullet's egg, superiorly it was attached to the left crus cerebelli, and by pressing upon the pons varolii and medulla oblongata, had completely flattened them on one side; and so intimate were its connexions below, that portions of the tumour (which consisted of medullary matter) could be traced in the canals of the bone.—The auditory nerve, so far as its origin could be traced appeared to be involved in the disease; the *left* optic thalamus was pressed upon by the tumour, but nothing unatural was observed in its structure, nor were there any diseased appearances in the tracti optici, and optic nerves. It was remarked, however, that these nerves were comparatively small. The mass which constituted the tumour had the appearance of brain, but was firmer than the natural cerebral structure.

CASE OF CANCER OF THE PENIS, COMMENCING WITH PARAPHIMOSIS.

A few Numbers back, we briefly alluded to the fact of Mr. Travers having amputated the penis, in consequence of cancerous disease. The particulars of the case are as follow:—

P. C., 56 years of age, a labouring man, of sallow complexion and intemperate habits, was admitted into Henry's Ward, on the 27th of September, under the care of Mr. Travers. The account which he gave was, that three months previously, he perceived a small dark coloured spot on the side of the glans, near to its junction with the prepuce; it was of a dirty brown colour, superficial, and occasioned but little pain. However, as the sore continued for some time, he applied to one of those empirics, who (thanks to a dronish College) so abundantly exist, and this fellow mistaking the disease for a venereal affection, exhibited mercury to ptyalism—the mouth was sore for about a week. Afterwards, as he continued his ordinary employment, and usual intemperate habits, the prepuce became red, swollen, and very painful; it was drawn back, and he was unable to bring it forward, having, in fact, paraphimosis. This occurred about a month before admission, and the disease so rapidly extended, that the whole of the under part of the glans and prepuce became involved; the pain now became very severe, being invariably worse at night, of a lancinating kind, and occurring in paroxysms.

When admitted, the natural appearance of the glans penis was destroyed; it was covered with hard irregular granulations, which, from neglect on the part of the patient, had become very irritable; the skin of the penis, for some way back, was very hard and tense; there was no glandular enlargement.*

Mr. Travers saw the patient two days after admission, and, at this time, expressed his opinion that the disease was of a cancerous nature; with respect to the paraphimosis, Mr. Travers observed, that cancer of the penis begins either with phimosis or paraphimosis. As he was unwilling to propose immediately, the loss of so valuable a member, and was desirous of obtaining the opinion of his colleagues, Mr. Travers prescribed the application of hemlock poultices to the part, five grains of the extract

* It is a singular fact, that the poor man had applied for admission on the two preceding Thursdays, and was seen successively by Mr. Green and Mr. Tyrrell in the "taking-in room," but the case *was passed over, as not of sufficient importance to require admission into the Hospital!*

of colocynth at bed time, and five minims of the solution of arsenic in ten drachms of the decoction of bark, to be taken three times a-day. With this treatment, which was continued about a week, the sore became cleaner, and was less irritable; Mr. Green, who saw the patient in the meantime, coincided with Mr. Travers as to the nature of the disease, and the propriety of an operation. The poor man having assented, the operation was performed as we before stated. Mr. Travers made two circular incisions, the first through the skin only, and allowing this to retract, he made his second circular incision, at the part to which the skin had drawn back, and by one sweep amputated the penis. Five arteries were secured. The subsequent treatment consisted in the daily introduction of a bougie into the urethra, and ultimately a silver tube was worn; the parts granulated, and healed kindly.

MEDICAL CLINICAL INSTRUCTION AT ST. THOMAS'S HOSPITAL

DR. ELLIOTSON'S CLINICAL LECTURE ON PERICARDITIS, AND THE USE OF COLCHICUM IN THIS DISEASE.

THE observations made on the medical clinical instruction of this Hospital in the last Number of this Journal, have, we rejoice to say, had their effect in the proper quarter; and we have reason to believe that some measures will speedily be adopted to prevent the pupils from being any longer *cajoled* into the payment of eleven or twelve guineas for *one-third only* of the medical practice of the Hospital.

Dr. Elliotson thought it necessary on Saturday last to offer some remarks on what appeared in THE LANCET, lest he should be supposed to have censured his colleagues. Dr. Elliotson may take care of his own reputation, but we advise him not to be so tender for that of his colleagues. We dare say that he did not intend to censure them, and we only stated that which he said, namely, that he alone was giving clinical lectures; the bare statement of this fact is sufficient censure.

Gentlemen,—Previous to my offering some clinical remarks on pericarditis, which I intend to make the subject of my lecture to day, I must tell you, that I am much distressed at some observations which I have met with in this morning's LANCET, under the head of "Medical Clinical Instruction at St. Thomas's Hospital," however, I should not have noticed them here, but for an allusion to my colleagues by myself, reported in the body of the lecture, and which is likely to be misunderstood, from the concise manner in which it is given. I allude to that passage where I am made to say, that I gave clinical lectures on the first season, declined on the second because my colleagues would not join me, and now lectured alone only at their particular request. This is certainly the substance of what I stated, but I offered it as an apology for appearing to put myself very forward in giving clinical lectures alone, and not as a censure upon my colleagues, in which light it must appear without this explanation. I am, and hope always to be, on the best terms with my collegues. There is a trifling inaccuracy, I perceive, in the lecture as reported, which I am anxious to correct. In regretting that five years were spent in apprenticeships, and two years only of study in London, and wishing the times were reversed; I did not say the five years should be spent in London exclusively, but *at any schools* where professional and collateral knowledge could be obtained; for I am not one of those who think knowledge depends on *latitude* or *season of the year*.

Now to speak of pericarditis, and I will first read the particulars of a case recently in the Hospital, and which many of you saw:—

J. F., a seaman, 26 years of age, was admitted into William's Ward on the 11th of October. He had been ill upwards of a month, and complained of pain at the epigastrium, and about the region of the heart, darting to the left shoulder, and produced by the slightest exertion. The breathing was so difficult, that he was obliged constantly to be in the erect position; if he attempted to lie down, he experienced a most distressing sense of suffocation, with violent palpitation of the heart. He obtained but little sleep, being often disturbed by frightful dreams, waking suddenly with these, and a feeling of suffocation; the action of the heart was strong, and the pulse full. He stated that he had been similarly affected five years ago, and was ill for many months; it began then with rheumatism. The treatment adopted in this case was the application of a large blister to the chest, and the exhibition of *half a drachm of wine of colchicum*, to be taken three times a day. On the third night after these measures had been pursued, the man could lie down on his back, and from this time he gradually recovered. He soon lost all dyspnœa, palpitation, and pain, and he was dismissed without any symptom of ill health the day before yesterday, at his own request.

There was no doubt in my mind that this was a case of chronic pericarditis, and it was

treated as such. The pericardium, you are all aware, is a serous membrane, and therefore, the effects of inflammation in this part, are those peculiar to this structure. And here I may remark, that the mode of considering inflammation, in reference to its structure, originated with Dr. Carmichael Smyth, and it was not until about ten years afterwards that Pinel adopted this plan. With respect to the symptoms of carditis and pericarditis, it was thought by Cullen difficult to distinguish them from each other, and therefore he defines them both together, as pain in the region of the heart, anxiety, dyspnœa, palpitation, syncope. However, I believe that carditis, or inflammation of the heart itself, is a rare disease, though partial inflammation preceding an ulceration or abscess is sometimes met with. In most cases which are called carditis or pericarditis, we find, on examination after death, that the pericardium, like other inflamed serous membranes, is red, and the redness is in patches, in which are dots—a fluid, limpid, yellowish and muddy, or bloody, is contained within the pericardium. A layer of fibrin is spread out upon some part of the membrane, sometimes regularly smooth, but more frequently full of little projections, so as to resemble the interior of a calf's stomach; or, as Laennec has described it, it is as if butter were spread on two pieces of marble, which were then laid together, and afterwards pulled asunder. If pericarditis become chronic, then the fibrin constitutes a membrane, uniting the heart and pericardium, and more or less obliterating the cavity. Laennec remarks, that the symptoms of this disease are often very uncertain, that sometimes they are distinct and fatal, that at other times the disease exists, proves fatal, and is not recognisable till after death. Again, sometimes all the symptoms are present, and no such thing is found after death; and therefore, Laennec says, that he considers the diagnosis a mere guess in every case. *Auscultation* is of no assistance, except, perhaps, in informing you what the disease is not. I confess, however, that when we see pain in the region of the heart, and this increased by putting the ends of the fingers up against the diaphragm, under the cartilages of the left ribs in front, the pain running to the left shoulder, and even down the arm, an incapability of lying down, palpitation, a sense of suffocation waking the patient, the pulse full and quick, with a peculiar anxiety of countenance, it is impossible not to believe the disease to be pericarditis. And, with respect to Laennec's observations, I may remark, that inflammation in any part may prove fatal, without any of the symptoms having been present; and in others it clearly exists, and is destructive to life, yet nothing is found after death—this is seen even in apoplexy.

Pericarditis is frequently connected with rheumatism—the connexion of disease of the heart with rheumatism was first noticed by Dr. Pitian, of St Bartholomew's, in 1788, and mentioned by Baillie, in his Morbid Anatomy in 1797: yet, Sir David Dundas describes it in the Medico-Chirurgical Transactions, twelve years afterwards, without any allusion to them. The disease often occurs with acute rheumatism, and often succeeds it: the soft state of the heart occasions it sometimes to dilate, so that it acquires an immense size. With the case under consideration, you will observe that the patient first had the symptom in his heart, in conjunction with rheumatism, and he has frequently suffered from rheumatic affections.

The success of the treatment in this case, in my opinion, further shows, that it was an affection of the heart, for it was cured by *colchicum*, which has great power over pericarditis, and especially if combined with rheumatism; it does more also than any other internal medicine in organic disease of the heart. I was first led to employ it in rheumatic pericarditis, from knowing its extraordinary efficacy in acute rheumatism, and I gradually employed it in other affections of this organ. Colchicum is a medicine of great activity, and therefore requires much caution in its exhibition: it seldom does much good till it purges, when it must be suspended, lest the purging should continue and increase; for it is an acrid purge, extremely irritating to the mucous membrane, and if continued after diarrhœa is fairly excited, may cause horrid gripings, bloody stools, inflammation and ulceration of the intestines, and death. However, this is rarely to be feared, if the medicine is begun in a moderate dose, and cautiously increased, when this is found insufficient, and suspended as soon as purging begins. When there is griping, violent purging, and tenderness of the abdomen, cupping, leeches, or a blister may be applied, with the use of opium, and sometimes mild astringents. I usually begin in adults with a scruple or half a drachm of the wine of colchicum, three times a day.

In conclusion, I may remark, that the case we have considered, though recent, was of the nature of the chronic form, the man having had the disease before, and not being so violent as to require blood-letting or cupping: yet it was likely to last several months, and I have no doubt would, but for the colchicum.

THE LANCET.

London, Saturday, November 3, 1827.

We are glad to observe the decided tone taken by *The Times*, on the question of medical reform. That Journal does not hesitate to declare, that the legislature would be more usefully occupied in cleansing the Augæan stable of medical abuses, than in promoting schemes of emigration, or in encouraging crusades for the spiritual reformation of our starving population at home. We agree with our enlightened contemporary, that the subject of medical education is one of paramount importance, and that there can be no security for the public health, except in the establishment of such tests of qualification, as may ensure the competency of medical practitioners. We regret, however, that *The Times* should have been led, inadvertently, to give the sanction of its approbation to the regulations recently put forth by the Apothecaries' Company, because such approbation is calculated to defeat the cause of medical reform, by countenancing a system under which all the existing abuses have been fostered, and by a continuance of which those abuses would be perpetuated. We shall not, at present, stop to inquire into the motives which have dictated the regulations, but merely consider the effects. These effects are, first, to compel the attendance of candidates on particular teachers, and to render all candidates, who have derived their instruction from other teachers, ineligible; and, secondly, to extend the period of attendance on such teachers, from twelve to fifteen months.

We need not remind our contemporary of the mischievous consequences of giving a monopoly to particular medical teachers, for he has himself adverted, in very forcible language, to some of the evils resulting from such a monopoly, in commenting on the meeting of the students at Guy's. There is no proposition in Euclid more demonstrable than that—in proportion as you make it less a man's interest to discharge his duty efficiently, by so much will his duty be less efficiently discharged. Remove that stimulus to exertion, which is occasioned by the competition of teachers, and the privileged instructors will infallibly become negligent and inattentive. Nor is this system, of giving a monopoly to particular teachers, less absurd in principle than mischievous in its practical results; for, the only fact in which the public is interested, is, whether a candidate possess the requisite knowledge to enable him to embark in the practice of his profession, and, if he possess that knowledge, what matters it *where, under whose instruction, or in what space of time*, he has acquired it? We are told by a Chinese chronicler, that in the reign of the Emperor Pe Quong, brother to the moon, and mighty possessor of the brass-handled sword, a law was passed, making it capital for any man to practise physic in the celestial empire, unless he could produce a certificate of his having sat crossed legged for forty days, on the tomb of the illustrious physician, Fo. In the spirit of this law, have the Old Ladies of Apothecaries' Hall promulgated their regulations for the admission of candidates to the medical profession. Let a student present himself for examination, who has derived his knowledge from Dupuytren at Paris, or Graëfe at Berlin, and he will be at once rejected; but let a candidate show that he has served for five years behind the counter of the meanest apothecary and farrier that ever drugged man or horse, in the obscurest hamlet of the kingdom, and let him produce certificates of his having attended the lectures of certain privileged teachers for a few months, after the expiration of these five years of druggery, and he will be let loose to practise on the health and lives of the king's subjects.

But supposing (which is the erroneous supposition of the *Times*) that these regulations were really calculated to increase the professional information of medical students, who are to be the judges of the increased competency of candidates? Whence are the public to derive their security? By whom are they to be inspired with fresh competence in the ability of their medical advisers? Why, by eight or nine of the most incompetent and effete of the incorporated tradesmen at Apothecaries' Hall; by eight or nine twaddling administrators of clysters and caudle, who have received, upon their own showing, a worse education than that which it is the professed object of these regulations to introduce. *Quis custodiet ipsos custodes?* Who shall examine the examiners themselves? Who shall ascertain the qualifications of these self-constituted guardians of the public health? Much stress has been laid upon candidates possessing a competent knowledge of the Latin language, and we agree with the *Times*, that it is not too much to expect from those who undertake the superintendence of the public health, that they should have received the ordinary education of gentlemen. But is there one, we will ask, among the incorporated retailers of rhubarb at Apothecaries' Hall, who is capable of judging critically of a student's acquisitions in the Latin language? If there be one such, let him be named, "for him have we offended." Again, is there one among these incorporated tradesmen capable of judging critically of a student's acquisitions in anatomy, in surgery, in medicine, in physiology, in chemistry, or even in that science whereof they make a trade, pharmacy? If there be one such, we shall be content to consign the education of the whole medical youth of England to the hands of a corporation, which is regarded with equal contempt, both by the profession and by the public. We are the more anxious to call attention to the necessity of establishing adequate tests of qualification, by an efficient, searching, *bonâ fide* examination of candidates for the medical profession, because such an examination pre-supposes the removal of many of the abuses by which the profession is at present depressed and degraded. It would, indeed, be most unjust to medical students, to subject them to a rigorous examination, without removing the obstacles which, at present, render it almost impossible for them to acquire professional knowledge. Much of the filth must be cleared away from the "Augæan stable" of corruption, before this most salutary and essential object can be accomplished. A mere *viva voce* examination would, we repeat, be insufficient; candidates should not only be called upon to demonstrate the various parts of the human body on the dead subject, but they should be required to furnish written answers to printed questions on every branch of medical knowledge. Suppose, to give an easy example, a candidate were required to describe the symptoms of ascites, to state the medical means of curing or palliating that disease, and to explain the operation of paracentesis. By giving an answer upon paper to this question, he would either exhibit his knowledge, or he would commit, like Dogberry, his own ignorance to writing. An examination conducted upon these principles, would really furnish a test of the competency of candidates; but then we would no more tolerate the Old Ladies of Apothecaries' Hall as examiners, than we would accept Dr. Hewett as a referee, if the question proposed were to distinguish between the indications of actual parturition, and the symptoms of acute peritonitis.

Shortly after the above article was written, the letter of "A Pupil," inserted at page 179, reached us. It contains a pregnant illustration of the correctness of our arguments, relative to the pernicious consequences arising from the present infamous

system of monopoly enjoyed by the surgeons of the London Hospitals. Sir A. Carlisle, and Mr. Lynn, *two* of the surgeons of the *Westminster Hospital*, are also two of those precious lawgivers of our College, who enacted a regulation which compels a student to produce a certificate of attendance at a *London Hospital*; and yet, when they have thus unjustly dragged him here, and received his money, seem to think that taking any further notice of him, would be beneath their dignity. But their infamous reign fast approaches its end.

A LETTER will be found at page 180, from Mr. S. COOPER, the able author of the *Surgical Dictionary*, relative to some alleged inaccuracies in our notice of that gentleman's speech, delivered at the last meeting of the MEDICO-CHIRURGICAL SOCIETY. On comparing the letter with the report, we look in vain for the "contradictions" and "absurdities" complained of by Mr. COOPER. The chief cause of offence, probably, may be found in the *brevity* of the report. However, we are obliged to Mr. COOPER for having furnished the profession with a more extended view of his valuable opinions on the treatment of *erysipelas*.

MR. ASTON KEY has sent us the following statement relative to the subscription for Sir Astley Cooper's Portrait:—

"Mr. HENRY COOPER, who was appointed *Treasurer* for receiving subscriptions in the year 1817, paid to Sir Thomas Lawrence half the price of the portrait, (the receipt for which sum is in the hands of Mr. Key,) with the understanding that the other half was to be paid as soon as the painting was completed. Up to the present period, the painting has remained in an unfinished state. The subscriptions in 1817 not being equal to the sum required (in consequence of a wish expressed to the Committee by Sir Astley Cooper, that the subscription should be closed,) Sir Astley Cooper within the last six months has supplied the deficiency; and Sir Thomas Lawrence some time since received the whole price of the portrait, contrary to the agreement above mentioned. An artist has been spoken to respecting an engraving, which will be commenced as soon as the painting is finished."

The subscribers have now a right to expect an immediate explanation of the cause of the delay from Sir THOMAS LAWRENCE, whose conduct in this transaction does not seem to admit of a very favourable construction.

THE sum subscribed for Mr. COOKE amounts to 219*l.* 12*s.*; and, at the desire of that gentleman, the book will be finally closed on Thursday next, Nov. 8.

SUBSCRIPTION

TO PAY THE FINE AND LAW EXPENSES OF MR. W. COOKE, OF EXETER.

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The Publisher of THE LANCET	0	10	0

A Treatise on those Diseases which are either directly or indirectly connected with Indigestion: comprising a Commentary on the Principal Ailments of Children. By DAVID UWINS, M.D., &c. 1827. 8vo. pp. 274. Underwoods.

THE habits of the times, according to Dr. Uwins, seem to sanction three distinct species of medical writing. The erudite and technical, and exclusively calling upon professional readers; a second, the contrast to this, avowing its design to "make every man his own physician;" or, in other words, the quackery tribe of medical books; whilst the third set is only so far professional, as to be readable by the pro-

fession, and so far popular as to be interesting to the man of general science. We shall concede to the Doctor the privilege of making the division, at the same time that we admit his undoubted right to rank his own lucubrations, with whichsoever of the three he pleases. He selects the third, first, because it "has no loftiness of pretension," next, because it is "neither professional nor quackical," but both. So says the author, so say we.

If the author had confined himself to the writing of a medico-empirical melange, we probably should have allowed his work to pass silently to its doom, and leave it unnoticed and unknown; but when we find him pertinaciously continuing to discuss in the different tracts which he puts forth from time to time, some most important question of medical ethics, and still reiterating the same absurdities, we cannot avoid noticing, and, at the same time, exposing them.

The author appears partial to divisions and definitions—though neither in the one nor the other does he evince much of a logical turn. Having disposed of medical writings, as seemed fit to him, he very naturally turns to medical men, and divides them also into classes; the physician, the surgeon, the general practitioner, and the *referee* practitioner. With the last we had no previous acquaintance, and, therefore, must take them on the Doctor's authority, as most probably he is, or would be, one of that class. After the division comes a definition, or something like it, in the following passage, in which a line of distinction is sought to be drawn between medicine and surgery:—

"To medicine belong philosophical acumen, a promptness of drawing correct inferences, from occasionally doubtful premises, a large grasp of mind, and comprehensive attainment. Surgery requires cleverness, and tact, and mechanical dexterity, and minute anatomical knowledge. I will not say of our friends, the surgeons, when they meddle with medicine, what was once said of the city orators in the British senate, that 'they make sad work of it;' but I will say, that important as anatomical knowledge, natural and morbid, is to us all, something more is required than a familiarity with 'the blood and filth of the dissecting-room,' to form the mind, and regulate the habits, and give character to the decisions of the qualified and real physician."*

This passage is admitted, by the author to have given offence, and to have been esteemed "unjustifiably severe." In the preface of his last book he nominally apologises, at the same time that he, in fact, reasserts his former opinions:—

"It still does appear to me, that individuals who devote their time and talents to the *higher* departments of surgical science, are not those into whose hands the practice of what is called medicine, in contrast with surgery, would be best committed. It has been urged, that there is a manifest inconsistency in acknowledging the surgeon-apothecary to be a *legitimate* practitioner, and not extending the same admission to the surgeon himself. But the cases are not parallel. The education and habits of what is called, in the present day, a general practitioner, are precisely such as to constitute him the best practitioner in general; and although it appears to me that the dignity and rank of the profession would be most securely maintained by withholding its highest honours from those who, whatever may be their talents and acquirements, have not been liberally educated; and although I would contend for the separate rights and privileges of the separate departments of practice; I would freely and fully admit the rectitude of an opinion, expressed nearly half a century since by a learned physician, that 'the best schools for medicine, after all, are an apothecary's shop and a London hospital.'"

The general practitioners being long since fully in possession of the greater part of the medical practice throughout the country,

* "I am aware that the charge above made on surgery only partially applies; and even where it does so, it is against the principles rather than the persons that I would direct my strictures; almost, perhaps, before the ink is dry with which I pen the present page, I may shake hands in cordial friendship with one or more eminent surgeons, whom I would and do refuse to meet in sick rooms, although *they* would readily obey the call to *medical* consultation."

it would be rather indiscreet for a person who sets up as a *referee* practitioner to quarrel with them, or to seek to depress them; such an attempt would be altogether abortive, and serve no other purpose than to exclude him from what little he may have to do as a *referee*. The plan of attack is, therefore, directed against that class of practitioners denominated consulting surgeons, as being the persons now usually appealed to for advice in difficult and doubtful cases; hence it is that the following *feeler* is put forth:—

"In respect to surgery, I *must feel*, that *excellence in its pathological* and operative department requires such an exclusive occupation of mind upon certain particulars as *is inconsistent* with pharmaceutical details, *ready habits of discernment in disease*, or more reflective and generalising powers, brought to bear upon the same subjects."

This comprises the whole question at issue; we at once join issue with our Doctor upon it; and before we lay down the pen we shall show him that his cause has neither merit nor argument to support it.—Dr. Uwins assures his readers that "his strictures are directed against principles not persons." The distinction is just and fair—we adopt and shall adhere to it—we shall treat the question as if it were an A. B. case, as the lawyers say. The whole may be narrowed to this point—the physician ought to be preferred to the surgeon, What then are the grounds of the preference?

The term physician is rather a comprehensive one; it includes several classes of persons differing most materially in education and other adventitious circumstances, usually admitted to be sufficient to constitute a difference of rank and station between men. They may be arranged as follows, beginning with the lowest and ascending by successive steps to the highest.

1st. Persons without any previous education, or attendance on lectures or hospitals may make a short visit to St. Andrews, pay a certain fee, and receive a piece of parchment purporting to be a medical degree, which entitles them to the name of—*Doctor*.

2d. These individuals, after going through this compendious process, may legally by virtue of this same purchased honour present themselves at the College of Physicians, demand an examination, pass it without difficulty, pay a fee, and forthwith be gazetted as—*Doctors*.

3d. Another set of persons may take up their residence in Edinburgh, Glasgow, or Aberdeen, for three or four *winters*, attend certain lectures during these periods, and spend the summer where they please. They may take to the sea, go into the whaling service, make a visit to "Savage Labrador," and return time enough to attend the winter classes—receive their parchment in due season, and be dubbed—*Doctor*.

4th. These same persons thus initiated may likewise go through the formality of an examination at the College of Physicians, pay their fees, and receive in return an extra or extra-ordinary claim to the title of—*Doctor*.

5th. Some young gentlemen enrol their names at Oxford or Cambridge — keep their terms — obtain a degree in arts—another in medicine, though neither of these temples of science can afford them any facilities for obtaining medical knowledge; still, after performing their exercises, and hearing certain lectures, they receive the magical parchment with the name and dignity of—*Doctor*.

6th. These men of collegiate honours, may, on going through certain other (we had almost said masonic) forms at the temple in Pall Mall East, be admitted to the fellowship which confers the *summos honores*.

Now these classes of persons differ as widely from one another in the extent of their acquirements, medical and general, as men can differ in these particulars; they agree only in one circumstance, viz. in the name which they bear; still, because they are all called *Doctor*, they claim to rank before

persons called Surgeons, no matter what their education, acquirement, or talent. Is it necessary, to expose the absurdity of such a claim, to go further than simply to state the facts of the case plainly as we have here done? Is the man who bought his degree as he bought the tin case which encloses it, and who afterwards pays his toll at Pall Mall, and is passed on with his ticket in his pocket as freely as a traveller passes through a toll-gate,—is such a man, we say, to rank before a Cooper, a Lawrence, a Green, or a Bell? "Is he to presume to shelter himself behind his purchased dignity, and to tell such men,—"I shall meet you as friends, but I'll not consult with you on a *medical* case?"

But our author may not probably be prepared to try the question on this extreme case; he may say we have contrasted the worst men of the medical class with the best of the surgical. Let him but once make that concession, and his cause is lost irretrievably. It would then come to be a question of personal merit, to be tried and determined by the consideration of the education, talent, acquirement and character, medical as well as moral, of these different classes of men. Each would stand on his own merits, divested of all accidental circumstances of degrees and titles; and they who purchased their honours in a decayed Scotch College, as well as the spruce University Gownsman, would speedily find their level, and settle down to a very humble rank in public estimation. Whence do these gentlemen derive "their reflective (qu. reflecting?) and generalising powers," which give them a superiority to the surgeon. Their medical education is notoriously deficient; to hospital practice they are almost strangers. What little they know is acquired by lectures, or reading. As professional men, they cannot for a moment bear comparison with the educated surgeon. But we are told that their scientific and classical attainments, their college honours, give them "reflective and generalising powers;" and the mere assertion is all we have for it.

On the assumption that Doctors possess these powers, whether obtained by purchase or conferred by magic, we are not informed. Our *purest* "would and does refuse to meet in sick rooms" individuals belonging to a class of men whom he admits to be "the most honourable, the best informed, and *demonstrably the most useful* of which society can boast." (*Pref.* to Indigestion, p. 7.) At the same time that his *purest principles* justify him in meeting and consulting with a St. Andrew's Doctor, or the merest dotard in the whole college. In a case of difficulty and danger his *principles* would justify him, and even require of him, to prefer the assistance of any individual, however inefficient, who bears the name of Doctor, to the matured and practical wisdom of an experienced surgeon, even though the life of a patient be compromised by this adherence to *principles*. *Principles*, did we say? Yes, they are the principles unblushingly set forth in the prefaces to the works of a *pure* Physician. These are the principles acted on for ages by the votaries of the Castle of Indolence, as Garth called the temple in Warwick Lane. These are the practices which have gradually stripped them of whatever credit or influence they may have possessed with the community, and have left them without patients and without fees. They fenced themselves round with forms and privileges in their Castle of Indolence in Warwick-lane, whilst the outposts were gradually taken and occupied by their enterprising opponents, and when they lost all dominion and power they evacuated the fortress, and, like the back-woodsmen, moved westward and cleared the ground for a new settlement. There too their precincts are invaded. they find themselves hedged in on all sides; ere long we expect to hear of their making another move, still passing westward in their retreat, and their castle, like the toll-house at Hyde Park corner, which

it resembles in more particulars than one, will be moved further on as they retire before the approach of population and intelligence, giving way to their unsocial habits, whilst they hold fast to nominal rights—to parchment titles. Our *purist* must see all this, or he is incapable of seeing any thing; yet he will neither amend or alter his principles or practices—he seems resolved to maintain them to the last, and like an aristocrat of another class, "is resolved to stand or fall with his order,"—and fall —— we need not write the passage; we shall merely add, "Quem Deus vult perdere prius dementat."

After having exposed his ethical creed, our author gives us an insight into his medical doctrines: he describes them, for the most part, by their negative rather than their positive characters, which leaves us in a very happy state of uncertainty as to whether they are any thing, every thing, or nothing. Thus, "he does not subscribe to the doctrines of Clutterbuck or Broussais, but to both and to neither;" p. 4. Again—"Medical science is of such a nature, that a great deal of what is good in practice will occasionally connect itself with what is futile or even false in theory," p. 3; or, in other words, from falsity truth may follow. The Doctor perceives acutely enough what he calls "the *ad absurdum* extremes of medical theories," but is altogether blind to the *ad absurdum* extremes to which he pushes his ethical principles. He places in rather a conspicuous light the absurdity of the exclusive doctrines of those who attribute all maladies to "mucous membranes," "stomach," "liver," "colon," or "brain;" and claims some credit for acumen in discovering that the disease may be "one, all, or neither;" but does not see the absurdity of attributing "reflective and generalising powers" solely to the Doctors. Thus he steers an intermediate course, so as to reconcile differences, and acquire for himself the reputation of belonging to those free and easy persons who have been somewhere called the *in-medio-tutissimus-ibis* class, which must form a useful ingredient in the character of a *referee* practitioner. We noticed the sort of reasoning resorted to, to show that bad practice may follow from correct principles; the following extract will enable the reader to judge how far physicians can support a superior, much less an exclusive, claim to "more reflective and generalising powers" than other persons:

"One physician, in particular, has urged the propriety, in spite of *inflammatory* and *hæmorrhagic threatenings*, of laying the bosoms of our patients bare, and dashing cold water on the surface of the breast,—under the feeling, I suppose, that we, by this practice, impart a contractile tone to the pulmonary vessels, and obviate the irritation, *which owns weakness as its source*. To me it would appear that this treatment is, in *principle*, and in the *abstract*, *correct*, but that, like all other abstract principles, it will prove dangerous to put it into practice without great care and circumspection; and, at any rate, when had recourse to, its employment should be early instituted."

We shall briefly say, that the principles "which own weakness as the source" of inflammation of the lungs, are too absurd to require further exposure than a mere notice of the fact, that such are even now admitted by a physician or two; and the practice which proposes to cure such "inflammatory or hæmorrhagic threatenings" by affusion of water on the "exposed surface of the breast," is what we will not trust ourselves to designate by a name. It was such vagaries as this that Dr. Gregory sought to hold up to the contempt of his pupils, when he said, "Ninety-nine out of a hundred medical facts are medical lies, and all medical doctrines are stark staring nonsense." We take the words from Dr. Uwins' Compendium, p. 372; we append the extract as a fit commentary on the theory and practice indicated in the preceding passage, and having done so, we ask him and our readers this plain question—"Can he be serious or sincere, in continuing to assert that the

devisers of "stark staring nonsense," which they dignify with the title of Medical Doctrines, are to rank before the educated Surgeon? Is the opinion of that "one physician," who would bare a man's breast, "in inflammatory or hæmorrhagic threatenings," and dash it with cold water, to be preferred in a case of difficulty, before that of one of the "best informed, most honourable, and *demonstrably* the most useful class of which society can boast?" Finally, and we shall have done with the subject—Whether ought the community to place more reliance, in times of difficulty and danger, on the *pure* physician, whose *principles* are such as to justify an adherence to such practices; or on the surgeon, who, trained in a hospital, had learned his profession, not from books, but at the bed-side of the patient? Such a man as is described by our purist (and whom, he asserts, he would refuse to meet in a medical case), when he says, that "Some months since, he surprised many, and delighted all who heard his lectures, by a manifestation of splendour of genius, correctness of taste, richness of information, and rectitude of principle." (Introduction to Compendium, by Dr. Uwins.) One word more, and we have done with the principles and the practice. In the very page which precedes that from which this extract is taken, our author assigns the characteristics of physicians to be, "philosophical acumen," "promptness of drawing correct inferences," "a large grasp of mind," and "comprehensive attainment;" and the assumed possession of these constitute the grounds on which he rests their claim to rank before surgeons. But, with a dulness of perception only to be met with in a worshipper at the Castle of Indolence, he recognizes in a surgeon, whose lectures he had attended, "correct taste," "great information," "rectitude of principle, and splendid genius;" yet he refuses to consult with him. He will meet this same man as an *equal* in society, (what condescension!!) but not "in the sick-room of a patient." Verily, Doctor David Uwins must be a towering genius.

A Concise Description of the Locality and Distribution of the Arteries of the Human Body. By G. D. Dermott, Lecturer, on Anatomy and Surgery. London, 1827.

The Surgical Anatomy of the Arteries of the Human Body, designed for the use of Students in the Dissecting Room. By R. Harrison, A.B., T.C.D.

We have placed these treatises together, not merely because they treat of the same subject, but because it affords us an opportunity of contrasting the views and opinions of their authors, as well as the plan and execution of their works. Nothing is more necessary to the proper performance of surgical operations, than a knowledge of the course and distribution of arteries, as well as of their relation to contiguous parts. To facilitate the acquirement of this knowledge, is the avowed object of the works before us; but this is one of the few particu- in which they agree—we mean as to matters of opinion, not as to matters of fact. It is very justly observed by Mr. Harrison, that students attend with most earnestness, and therefore with most benefit, to such anatomical descriptions as are interwoven with practical and physiological remarks; and further, that those practical or physiological inferences are most appreciated, which are drawn from anatomical relations. Accordingly, we find his book throughout enriched with a great number of practical remarks, drawn from his own observation, as well as from the experience of others. This is what has rendered the work so useful to practitioners; but, in order to extend the sphere of its utility, the description of each important vessel is prefaced, by remarks on the best mode of prosecuting its dissection, and of displaying the relative

position of the parts contiguous to it; so that students, in the dissecting room, find it a most valuable auxiliary. The author had, in the first instance, proposed to publish with the work coloured plates, explanatory of the relative anatomy of arteries in situations where the more important operations are required, but abandoned the idea from a consideration of the increased expense it would entail on the purchasers.

These views have already met the full approbation of the profession; the sale of the work is a sufficient indication of the estimation in which it is held. Mr. Dermott, however, if we may judge from his preface, either has not read the book, or does not agree in opinion with its author on the topics referred to. He describes his work to be, "an anatomical outline of the arterial system, without there being attached to it any physiological inference or surgical precept." And though it is intended as "the student's first lines," yet no instructions are given as to the modes of dissecting or exposing parts; further, though it is contemplated that it may be useful at a more advanced period, "during their practical career, and in their operative days," the modes of making incisions, and of conducting operations on arteries, are altogether omitted. To compensate for these omissions, which to us appear serious defects, some plates are added; and we regret to say, that we cannot congratulate the author on the discrimination displayed in the selections of the subjects for his delineations. Mr. Harrison points out the proper subject for such drawing—viz. "arteries which may require operations;" these would be of some utility in a practical point of view, and would be some compensation for any increase in the price of the work; but Mr. Dermott seems to entertain very different views of the matter; and has selected for the subjects of his diagrams—1st. "The distribution of the arteries of the brain and spinal marrow;" 2d. "The branches of the cœliac artery;" 3d. "The arteries given off from the abdominal aorta." Should our readers inquire the reasons of the choice, we must confess our inability to give a reply, as the author has not deemed it necessary to afford us any insight into his motives or views with regard to this subject. The following is a favourable specimen of Mr. Dermott's style of description; we may observe, that the plan and order are nearly the same as those adopted by Mr. Harrison:—

"The *Arteria Carotis Communis*.—The right carotid arises from the bifurcation of the arteria innominata, posteriorly to the cartilage of the right first rib:—the left carotid from the arch of the aorta; and having made its inclination to the left side of the trachea, and its emergence from behind the left side of the first bone of the sternum, ascends precisely like the right, laterally to the trachea; first upon the longus colli, and then upon the rectus capitis anticus major; the two diverging a little, so as to leave room for the interposition of the larynx; and corresponding with the superior cornu of the thyroid cartilage, or the cornu of the os hyoides; each bifurcates into the external and internal carotids.

"The artery, during its ascent, is *bounded—internally*, first, by the trachea and œsophagus, and higher up in the neck by the larynx and lateral lobe of the thyroid gland, which latter organ frequently overhangs it a little: *externally*, by the internal jugular vein and par vagum: *posteriorly* by the muscles that it ascends upon: and *anteriorly*, at the lower part of the neck, by the beginning of the sterno-thyroideus, and hyoideus, and the commencement of the anterior belly of the omo-hyoideus; also, still more extensively, and superficially, by the sterno-cleido mastoideus; the upper inch, however, of the artery is uncovered by the latter muscle, and seen anteriorly to its edge in a deep angular-shaped cellular cavity, which is bounded before by the angle of the thyroid cartilage, and behind by the anterior edge of the muscle,—here its pulsation can be felt, as it is only covered by the common integuments, platysma-myoides and by the fascia of the neck (which coverings stretch from side to side over this cavity), and the investing sheath of the carotid.

"*Concomitant Organs.*—Those contained *within the sheath* of the carotid consist of the internal jugular vein, situated by the outer side of the artery, and the par vagum between and rather behind them; these are placed in the *outer side* of the sheath, and are

parted from the artery by the cellular septum of the sheath. The concomitant parts *outside the sheath*: the sympatheticus maximus is behind the sheath; and the descending branch of the ninth pair of nerves on the fore part (sometimes in the sheath), covered by the anterior edge of the sterno-cleido mastoideus muscle along with the sheath itself."

The arteria innominata is here described as bifurcating behind the "cartilage of the first rib." According to Harrison, it divides opposite the sterno-clavicular articulation, which is a correct statement of the fact, as every practical surgeon knows; for he is well aware, that the innominata is endangered, particularly in young subjects, in the performance of tracheotomy, which would not be the case if it ceased at the cartilage of the first rib. Moreover, if the latter point were the limit of its extent, it would be impossible to apply a ligature on the artery under any circumstances, as it could not be drawn above the chest by any degree of extension of which the neck is capable.

In the description of the femoral artery, a division is adopted, we believe quite unusual and unnecessary; it is divided into "femorales communes," "femoralis superficialis," and "profunda;" the first being the part intervening between Poupart's ligament, and the origin of the profunda, which, with the continued trunk, are regarded as resulting from its bifurcation. This appears to serve no useful purpose; it tends rather to embarrass the description, more especially as it is admitted, that "this bifurcation is sometimes formed by the termination of the external iliac artery beneath Poupart's ligament, and that there is then no common femoral artery," p. 117. The course and relations of the vessel are thus described:—

"The superficial femoral artery: but, properly speaking, the artery passing through the thigh to supply the leg and foot. It is a large artery that descends nearly in a line with the common femoral artery, and therefore seems to be its continuation. It arises from the bifurcation of the common femoral artery, and passes downwards, rather backwards and inwards, through the internal side of the thigh, inclining in its descent gradually from the groin to the ham. It first descends in front of the pectinalis muscle; afterwards in front of the interstice, between the lower edge of the pectinalis and the upper edge of the triceps adductor longus (which is in correspondence with a part of the triceps adductor brevis); then in front of the insertion of the triceps adductor longus, and consequently upon about an inch of the tendon of the triceps adductor magnus; lastly, it perforates the tendon of the triceps adductor magnus, enters the ham, and becomes the *popliteal artery*.

"The artery, during its descent, is bounded externally, first, by the upper part of the rectus femoris, and still lower (for its two lower thirds) by the origin of the vastus internus: internally and posteriorly it is bounded by the layers of adductor muscles, in front of which I have stated that it descends; viz. the pectinalis, the triceps adductor longus et magnus; and anteriorly or superficially, it is bounded in the middle third of the thigh by the sartorius.

"Above the middle third, the artery is situated in a deep triangular hollow, bounded internally by the pectoralis (*q.* pectinalis?); externally, by the upper part of the rectus femoris; and anteriorly and inferiorly by the sartorius: here it is only covered by the common integuments, fascia superficialis, and the fascia lata femoris. In the middle third of the thigh, as it is behind the sartorius muscle, it is contained in a strong sheath, called the *canalis tricipitis*: the superficial side of this sheath is formed by a *remission of tendinous fibres* given off from the origin of the vastus internus, (by the outer side of the artery,) and by another *remission of tendinous fibres* given off from the tendon of the triceps adductor longus (by the internal side of the artery); these *two remissions intersect* over the artery, so as to form a ligamentous stratum, which is the superficial side of the sheath, and which is flatly covered by the sartorius muscle: the posterior or deeper side of the sheath is formed by the meeting of the origin of the vastus internus and the tendon of the triceps adductor longus, behind the artery at the linea aspera."

The author, in this and some other passages, seems to have followed a guide, in whom he securely trusted; and so long as he did so, his description went on fluently enough, and, we may add, with sufficient precision; but as soon as he committed himself to his own resources, a *remission* speedily ensued. We adopt the word *remission* from Mr. Dermott, but we use it in

a sense totally opposite to that which he seems to attribute to it. It usually implies a partial suspension or cessation of a given action or condition. In the passage before us, it means quite the reverse. When we hear such expressions, as "a remission of tendinous fibres," from one point to another, and "two remissions intersecting" or decussating, what other impression do they convey to the mind, than that he who uses them, is playing at a sort of game of cross-purposes with words, as well as with facts?

We remarked, at the outset, that Mr. Dermott did not seem to be acquainted with the other work so frequently referred to, and so generally esteemed, by the profession; we have already stated some of the grounds of this opinion, which seems further supported by the following passage from the preface:—

"Some anatomists, though they may describe exactly the length and the direction of each artery, yet only, perhaps, describe its relative position with regard to some few muscles; or they speak of the relative muscular position in too general a way to convey any precise idea of its connexion with the arterial; and, in certain instances, indeed, they seem to have disregarded the muscular relationship altogether."

The remark, certainly, does not apply to Mr. Harrison's work, which we can recommend to the notice of Mr. Dermott, both for the clearness of its descriptions, as well as for its practical utility; and probably in his next edition, he may feel disposed to omit the plates, and substitute something of more value to his readers.

ST. BARTHOLOMEW'S HOSPITAL.

"SINGULAR VARIETY OF HERNIA."

We shall transcribe the history of this case, and the description of the operation, &c. verbatim, from Mr. Earle's case book, for reasons which will appear in the sequel.

"John Harris, æt. 31, watchmaker, was admitted into Darker's Ward, about twelve o'clock on the night of Thursday, October 4th, under the care of Mr. Earle. It appears that he has had a hernia for many years: it has caused no inconvenience: he had worn no truss, and it had not been reduced for two years. On Wednesday, while at stool, he coughed, and the tumour suddenly enlarged, and gave him considerable pain. He had been costive for two days previously to the evacuation on Wednesday. Finding the pain increase, and tenderness of the belly coming on, he sent for a surgeon on Thursday, who tried, ineffectually, to reduce the tumour, and sent him to the Hospital, at midnight of the same day. Upon examination, a large oblique scrotal hernia is found on the right side, reaching to the bottom of the scrotum, on the lower and back part of which, the testicle is to be felt very distinctly. The scrotum is tense, and somewhat painful, but not much discoloured, and he complains of tenderness of the abdomen on pressure. He is vomiting frequently, has a quick and contracted pulse, anxious countenance, and clammy skin. He was placed in the warm bath, and the taxis diligently applied by the dresser, but without effect. Mr. Earle was consequently sent for, and arrived between two and three o'clock in the morning. By this time, the symptoms were very urgent, and he judged it right to have recourse to the operation without delay.

Operation.

The operation was performed about three o'clock, by Mr. Earle, who commenced by making an incision from opposite the external abdominal ring, to the lower part of the scrotum, dividing the skin and cellular membrane beneath, and exposing the superficial fascia. There was not much bleeding from the divided external pudic. A small puncture was made through the fascia superfilialis, and a director introduced through it, upon which the fascia was divided by a probe-pointed bistoury. The cremaster muscle, thus exposed, was next divided in a similar manner, which brought the sac into view. The superficial fascia was thicker than natural, and considerable alteration had taken place in the structure of the cremaster; it was bigger than usual, and its fibres connected into strong white, tendon-like cords. The peritoneal sac, adherent to the cremaster and cellular tissue adjacent, was next very carefully divided, and the displaced intestine brought into view, which appeared to be inflamed, but not gangrenous. The contents of the sac were evidently large intestine, and on examination, found to be the cæcum and part of the colon, which were adherent to the sac. The fore-finger of the left hand was now passed into the sac, and pushed in the direction of the external ring, through which it was readily passed, proving that

no stricture existed there. Mr. Earle next ascertained that there was no cause of strangulation in the inguinal canal, or at the internal ring. The two rings were almost closely approximated. On handling the colon, Mr. Earle thought he felt something hard within it. This, he observed, was not feces, for it was immoveable, and felt like a thickened piece of intestine within another, there being no evident cause of strangulation, but yet symptoms of it; and no small intestine to be seen entering the large gut, together with the presence of the foreign body in the colon, resembling small intestine. Mr. Earle concluded that there was introsusception. He made an incision into the colon about an inch and a half long, through which some dirty-coloured fluid and much flatus escaped. This was done to lessen the bulk of the tumour, Mr. Earle conceiving, that the urgency of the symptoms warranted it. The coats of the divided intestine were somewhat thickened, and eversion of the villous coat took place, so as to encroach considerably on the wound. Through the wound of the gut, and projecting into the colon, in the manner the uterus does into the vagina, might be seen a body, about two inches in length, having an aperture in its middle, which appeared to be an involvulus. Mr. Earle's finger readily passed backward along the colon, through the external ring, but he was unable to push his finger in the direction towards the stomach, on account of some thickened folds of the mucous membrane."

The preceding account, we understand, was written by Mr. Earle himself, on a sheet of foolscap, and transcribed by the dresser of the day into the Ward-book. We shall have many observations to offer on this "singular variety," but will first accompany the poor fellow through his illness, and his "finish" in the dead-house.

After the operation, the patient was very much depressed. Thirty minims of laudanum were administered in a little warm wine; an injection of warm water was thrown up the rectum, and manifested itself at the incision of that portion of the colon which helped to form the "singular variety." About noon of the same day he appeared somewhat rallied; his pulse was small and weak, tongue covered with a viscid layer of mucus, his expression very dejected. His general appearance resembled that of a man in the latter stage of peritonitis.

6. An anodyne draught was prescribed last evening, but he passed a very indifferent night. Pressure over the abdomen produces but little pain. A considerable quantity of fecal matter has passed through the "singular" incision in the colon. Arrow-root, tapioca, strong beef-tea, &c. and such like nutrients, to be taken ad satisfaciendum. Four ounces of wine daily, and to continue the laudanum at night.

9. Much the same. There has been no decided improvement since the 6th. His nights have been restless and disturbed, his countenance that of a dying man. The fecal matter continues to pass through the "singular" incision. Pergat. in usu med.

12. He has been gradually getting worse since the last report. His nights have been more disturbed, his tongue more brown, with much arterial excitement. Pergat.

14. Rapidly sinking. He has hiccups, and all the percursors of death. He lingered until the evening of the following day, when he sunk.

Sectio Cadaveris.

The cavity of the abdomen exhibited unequivocal evidences of general peritonitis. The convolutions of intestines were, for the most part, agglutinated to each other, the connecting medium being organised. The intestines were slit up, but no introsusception, or any thing of the kind, was discovered. The bowels were permeable throughout. The tunics of the ileum were thickened for about an inch from the valve, the valve itself having a similar character. The sac and parts that formed the hernia, were firmly agglutinated to the sides of the inguinal canal. A tumour of a firm consistence, and equalling in bulk an ordinary sized orange, was discovered on the anterior superior surface of the scrotum. A section of it presented a structure, consisting of granulated fat, interfected with ligamentous striæ, a structure frequently the precursor of cancer. Mr. Earle, with much significant gesture, attempted to characterise it by a Latin quotation, "rudis indigestaque moles."

Now then for a few observations, as deduced from a general consideration of the case, in order to explain its "singular variety." In the first place, we have to observe, that the history given of the case, previous to the "singular operation," as recorded in the ward-book, betrays, altogether, a narrow and isolated view of the disease; it refers exclusively to the certainty of its being incarcerated hernia, but we will presently show that such at no time existed. The man, for some months previous to his death, had experienced a dull sensation of pain in the right iliac region, which, two or three days previous to his admission into the hospital, rather suddenly became of an acute character. His bowels became costive, and remained for two days uninfluenced by the action of medicine in the evacuation of their contents. On Wednesday, the day prior to his admission, he felt an inclination to relieve himself by stool,

when, by the powerful compression of the viscera in the efforts at evacuation, a portion of intestine was protruded through the abdominal ring. The pain immediately became violent and excessive, but declined rather to its previous state in the course of an hour. During the night it augmented in intensity, and on the following day a surgeon was called in. He regarded it as incarcerated hernia; accordingly, employed the taxis, but failing of success, he had him conveyed to the Hospital. Thus much of the history of the case, as elicited by ourselves from the patient. It was stated in the sheet of foolscap, that he "vomited frequently" when admitted, having an "anxious countenance and clammy skin," striking symptoms of the rapid progress of enteritis. That there was a hernial tumour, no one will question—that the cutting into the *inguinal canal*, under such circumstances, was perfectly correct, is equally obvious. Not so with cutting into the *gut* itself. The intestine contained in the hernial sac, was not strictured, no incarceration could be detected; and Mr. Earle, on grasping that portion of gut containing the cæco-iliac valve, from some strange misconception, regarded it as a "*foreign* body;" when he immediately concluded, from *that* circumstance, that the case was one of "introsusception." It does not appear that Mr. Earle made any attempt to disentangle the introsuscepted portion of bowel. Having in his recollection the splendid feats at St. George's Hospital, and having a desperate "longing after immortality," he chose the accomplishment of a "singular" achievement, and slit open the intestine below the "foreign body," that is, the supposed "introsusception;" furthermore this extraordinary operation was undertaken, "to lessen the bulk of the tumour." But enough. It is evident that Mr. Earle's was a strange misconception altogether. The case was unquestionably, from beginning to end, one of enteritis. The dull pain that the patient had experienced for some months previous to his death, will account for the thickened state of the valve of the ileum, and the inch of intestine—it was the result of chronic inflammation. We have given the case under the head of "singular variety of hernia," as it is reported by the "select" at the Hospital, and Mr. Earle is "getting it up" under that name, for Roderick's forthcoming Fungus.

[Since the above report was written, Mr. Earle has himself published the case; and although we cannot extol his practice, it is impossible to withhold from him the praise of candour.]

MIDDLESEX HOSPITAL.

CASE OF FRACTURE OF THE CRANIUM.—OPERATION OF TREPHINING THREE WEEKS AFTER THE ACCIDENT.

A CHILD, six years of age, was brought to the Hospital about the end of last month, with a compound fracture of the upper part of the os frontis, near its junction with the parietal bone, and depression of the skull to a considerable extent, which formed at the seat of the injury a very evident cavity. The child, for some time after the accident, remained in a state of stupor, but at our first visit appeared scarcely to be suffering from it at all. He continued to go on for about a fortnight singularly well, and seemed almost to have surmounted every danger. The wound, however, never put on a healing aspect, and the bone assumed that dark greenish appearance, which is the sure indication of mischief below.

On the tenth day after the accident, we observed that he was restless, his skin hot, and his tongue less clean than before, but he did not complain of pain, and his pulse was not above the natural standard at his period of life.

On the 21st day, Mr. Mayo was informed that the boy was in a state of convulsion; and, on our arrival with that gentleman, we found the child much changed for the worse. He was now in a state of complete coma, and occasionally convulsed, with dilated pupils, and stertorous respiration. His pulse had sunk to 58 in the minute. These symptoms, which had come on that morning, shortly before the visit, evidently pointed out that compression of the brain existed to a very considerable extent. Mr. Mayo, therefore, proceeded without delay to perform the operation of trephining. On removing the circular portion of bone, three ounces of excessively fœtid pus escaped. The dura mater was separated from the cranium to a great extent, and appeared to be in a very unhealthy condition, being of a dirty green colour, and covered at one or two points with small shreds of lymph.

Immediately after the operation, the patient's pulse rose to 100; the degree of stupor diminished very considerably, and the child became sensible to pain. The stupor has since entirely disappeared, but a hernia cerebri has taken place, and the patient seems again to be in very great danger.

Since the operation the child has been unaffected with stupor, and for a considerable time seemed to be doing well; a fungus cerebri however afterwards appeared, projecting through the opening made by the trephine. This has been twice cut off,

but it soon re-appeared. A ligature was then applied, but without effect; for the fungus made its appearance. The ligature has again been applied. After the employment of the ligatures, no bad effect was produced, the child apparently not suffering from their use. Within the last few days the appearance of the little patient is much changed for the worse, and indeed he seems now to be rapidly sinking.

The history of this case shows, in an eminent degree, the difficulty of detecting that insidious inflammation of the dura mater, which is the frequent consequence of injuries of the head, and how far the derangement arising from it may proceed, without giving rise to any very decided symptom. It is also calculated to impress on the mind of the medical attendant, the necessity of a most scrutinising attention, in similar instances, to every minute change in the state of the patient—and to make him consider those symptoms of a very important character, which, under ordinary circumstances, are generally esteemed to be of a trivial kind.

GUY'S HOSPITAL.

FATAL CASE OF FRACTURE OF THE SPINE—LESION OF THE SPINAL MARROW AND DISEASE OF THE BLADDER, DISCOVERED ON POST MORTEM EXAMINATION.

The following case of fracture of the spine, which proved fatal on the twenty-first day after the receipt of the injury, will be found to bear upon the question, which our readers will perceive by the last Number of this Journal, was agitated at the Westminster Medical Society, namely, as to the change which takes place in the secretion of urine, in cases of severe injury to the spine; and the diseased condition of the bladder, which is also noticed as occurring subsequently to these accidents.

The patient, a stout Irish bricklayer's-labourer, about 25 years of age, was admitted into Accident Ward on the 1st of October, under the care of Mr. B. Cooper, on account of severe injury to the spine. The accident was occasioned by his slipping from off a ladder, at a distance of several feet from the ground, and falling upon some bricks; he was stunned, but speedily recovered his sensibility—he was somewhat intoxicated at the time of the accident, and when admitted, his skin was cold and pulse feeble. The dresser, Mr. Roots, informs us, that he carefully and attentively examined the spine, but could discover no displacement—there was some tenderness and swelling, apparently from extravasated blood, in the soft parts, about the upper dorsal vertebræ. The lower extremities were completely devoid of sensation and volition; the integuments of the abdomen and chest as high as the nipple, were also insensible. The *penis was partially erect*, the upper extremities were free from paralysis. Having suffered some time to elapse, until, by means of warm clothing, a degree of re-action was set up, twenty ounces of blood were abstracted from the seat of injury, by means of cupping, and ten grains of calomel were exhibited. In the evening there was considerable febrile excitement; a catheter was introduced into the bladder, and a saline febrifuge mixture prescribed.

Oct. 2. We visited the patient to-day, in company with Mr. B. Cooper, and his dresser, Mr. Roots, and turning the man over to examine the spine, could not perceive or trace any displacement of the spinous processes—there was swelling and tenderness (on firm pressure) about the upper dorsal vertebræ, the third or fourth especially, at which part, it might be supposed from the symptoms, injury to the spinal marrow had occurred. The upper extremities being free from paralysis, the spinal injury was, of course, below the origin of the axillary plexus; but as we have just stated, there was no perceptible displacement of bone. The lower extremities were completely paralysed, the integuments of the abdomen, and part of the chest, devoid of sensibility, the penis semi-erect, the breathing accomplished by the diaphragm alone. The pulse was strong, skin hot, and tongue furred: the bowels have not been relieved—bled from the arm, to the amount of fourteen ounces, and a purgative enema administered; the catheter introduced night and morning.

As from the date of this report the patient continued in much the same condition from day to day, it will suffice to state, generally, the particular circumstances that occurred. On the fifth day after the accident, there was supposed to be a slight increase in the sensibility of the integuments of the chest; if, however, it really did exist, it was very trivial. The bowels now were lax, and the motions passed involuntarily; purgative enemata had been administered, and the urine drawn off regularly night and morning.

On the tenth day, there were numerous vesications on the lower extremities; the urine had a strong ammoniacal smell when drawn off, but was quite clear, and being set aside (at our request), we did not find, on subsequent examination, that it had deposited any sediment. Sloughs had now formed on the nates and back, and the pa-

tient was evidently gradually sinking, having become much emaciated.

On the fifteenth day, there was a hectic condition of the system; the pulse, from having been slow and oppressed, had become small and quick. The paralysed condition of the parts previously enumerated, continued; the stools passing away involuntarily and unconsciously, but the bladder still was capable of retaining the urine, which was regularly drawn off night and morning; it smelt strongly, and was slightly mixed with purulent matter. The sloughs had increased, and nitric acid had been applied.

From this period to the time of his decease, the poor fellow gradually became worse; and it was truly piteous to see a fine stout, muscular fellow, thus, as it were, dying by inches. He sunk on the morning of the 22d, being three weeks from the date of his admission, and occurrence of the accident.

Inspectio Cadaveris.

We were not present at this, but were favoured by Dr. Hodgkin with a close inspection of the parts removed, as well as an account of the appearances observed. Dr. Hodgkin states, that when the body was put upon the table, and turned upon its face, for the purpose of examining the spine, then a displacement of the vertebræ was very apparent. This is somewhat extraordinary, as the patient was examined by Mr. Cooper, repeatedly by the dresser, and twice by ourselves, namely, on the second and third days of admission, but no irregularity could be discovered in the spinous processes. The notes, as made by us on the two successive examinations, stand thus—"There is no perceptible displacement of the spine." However, such was the fact, that displacement did exist; the body of the *third* dorsal vertebra being thrown forward, we suppose, in consequence of fracture through its articulatory processes (but this we could not satisfactorily ascertain), and the spinal marrow consequently was compressed by the arch of the vertebra. The theca vertebralis presented no unnatural appearance at this or any other part of the spine, except that it seemed to be somewhat distended; but on slitting open the envelopes, it was found that a complete lesion of the spinal marrow had taken place, at the point where the fractured vertebra had existed. The spinal marrow *above* the point of separation, to some extent, was much softer than natural, and the *lower* portion was still more soft; indeed, the central part on the right side was quite pultaceous. The mucous membrane of the bladder was thickened generally, and there were several patches of ulceration, especially at the lower part of the bladder, and these were covered by a brownish crust. It was remarked by Dr. Hodgkin, that he had seldom, or ever, removed a bladder, in a case of injury to the spine, which exhibited so little disease. Nothing worthy of observation occurred in the examination of any other part of the body.

SUPPOSED CASE OF FEMORAL HERNIA—AN ABSCESS, WITH A T INCISION.

On visiting this Hospital at noon, on Monday last, we were informed at the porter's lodge, that the "gentlemen were in the theatre," and that Mr. Key was about to operate upon a case of hernia. We hastened to the scene of many a "bloody deed," and found the patient upon the table. Such was the crowd of students, however, that we could only observe the patient was a stout muscular man, and had some kind of swelling in his left groin. Were we informed that it was a case of incarcerated femoral hernia, the strangulation having existed ever since the preceding Friday, that the patient had been in the Hospital only a few hours, and that the warm bath, bloodletting, and the taxis, had been unsuccessfully employed; the latter both by Mr. Key and his dresser. The operation therefore, was commenced by Mr. Key making a longitudinal incision the whole length of the tumour, and a transverse incision at the base of the swelling so as to form the letter T inverted, in the manner of operating for femoral hernia, particularly taught at this school. The incisions being completed, a director was next used, for the purpose of dividing upon it the successive layers covering the supposed hernia, when lo, a small quantity of matter escaped. The operator now discovered that the supposed hernia was merely an enlarged gland which had partially suppurated; the T incision was therefore "done up," to use a dresser-like phrase, and the man was put to bed.

On the following day, after the operation for popliteal aneurism was concluded, Mr. Key addressed the pupils nearly, as we can recollect, in the following terms:—

"Gentlemen,—One word before we part, respecting the case on which I operated yesterday, and I wish particularly to mention it, because it is a case on which much misconception may arise in your minds. The facts are these: a man presented himself at the Hospital, yesterday morning, with a tumour in his left groin, in the situation of femoral hernia; it was painful, and tender upon pressure; the man said, that it came down suddenly on the preceding Friday, when engaged in violent exercise,

and that feeling sick he left his work; further, that his bowels since that time had not been relieved. From this account the case was supposed to be femoral hernia, and measures were accordingly employed for its reduction; there was certainly something curious about the feel of the tumour, but after consulting with my colleagues, I determined on cutting down, in order to ascertain its nature; and I laid it open, as you perceived, in the manner of hernia. The result was, that I found a suppurating gland in the situation of femoral hernia. My motive in operating, was to ascertain whether hernia existed; if hernia had been present, and I had not operated, it would justly have been said, that I allowed the man to die. I do not consider, therefore, Gentlemen, that the case can reflect any discredit upon my practice individually, or upon that of myself and my colleagues collectively."

There was considerable applause at the termination of Mr. Key's explanatory observations. With respect to the patient, we found that aperient medicine had been given to him, and his bowels had been very freely acted upon; he was suffering from slight febrile excitement, the pulse being rather quick, and tongue somewhat furred, but was, upon the whole, comfortable. A poultice was laid over the "T incision."

We took down the following statement from the patient, and pledge ourselves for its accuracy:—

J. C., a stout middle-aged man, says that he was in good health until Tuesday last, when, being engaged in very laborious employment, he discovered a small swelling of the size of a pea in the left groin; it was not painful, and he continued to work throughout Wednesday and Thursday, but on Friday declined, as the swelling had got larger, and was then painful. On Saturday night it felt very hot, and was in much pain, and on Sunday at noon, he felt cold and had shiverings, so that he was obliged (using his own expression) "to creep round the fire," he felt generally unwell, had lost his appetite for two or three days previously, and felt qualmish. His bowels, he said, were relieved on the Friday, and not since. On the following morning, Monday, he came to the Hospital about nine o'clock, was seen by the dresser first, and by Mr. Key subsequently. The warm bath was used, after which, blood was taken from the arm, and the taxis then employed, as it was also in the bath. No aperient or other medicine was given, and the operation was performed at noon in the manner we have described.

The patient's history of the formation and progress of the tumour differing so widely from that given by Mr. Key, we must, in justice to that gentleman observe that when we taxed the man with having told a different tale on the preceding day, he said, that "*they bothered*" him so much when "*they were working*" him, he did not know what he said. The colleagues to whom Mr. Key referred, were Mr. Cooper and Mr. Callaway. Mr. Morgan was not present.

OPERATION FOR POPLITEAL ANEURISM.

On Tuesday, Mr. Key performed the operation of tying the femoral artery in a case of popliteal aneurism.

The particulars of the case, with the operation and subsequent treatment, we must defer to a future occasion.

TO CORRESPONDENTS.

COMMUNICATIONS have been received from Mr. WILSON—Mr. EDWARDS—Mr. T. NUGENT, *Dublin*—MEDICUS—Mr. G. NESSE HILL—Mr. C. H. BREW, *Ennis*—AN OLD GENERAL PRACTITIONER—DUBLINENSIS—Mr. W. H. MERRY—A YOUNG GENERAL PRACTITIONER—VERAX—S.C.R.C.—JOHANNES—A CONSTANT READER—Mr. COLVAN.

Mr. N. is informed, that all the Numbers of the first edition of Vol. I. have long been out of print.

We are not aware that Dr. Davis has been appointed "Examiner in Midwifery" at the College of Surgeons.

We should feel obliged, if VERAX—S. C. R. C.—and "A PUPIL OF THE WESTMINSTER HOSPITAL," would confidentially favour us with their names.

ERRATUM *in the Speech of* Dr. BLICKE *at page* 143 *of our last Number.*

For "Mr. Abernethy had said there was no necessity for passing a cathether in retention of urine, as the bladder would be relieved by absorption," *read*, "That if it were not passed the bladder would not rupture, if in a previous healthy state."